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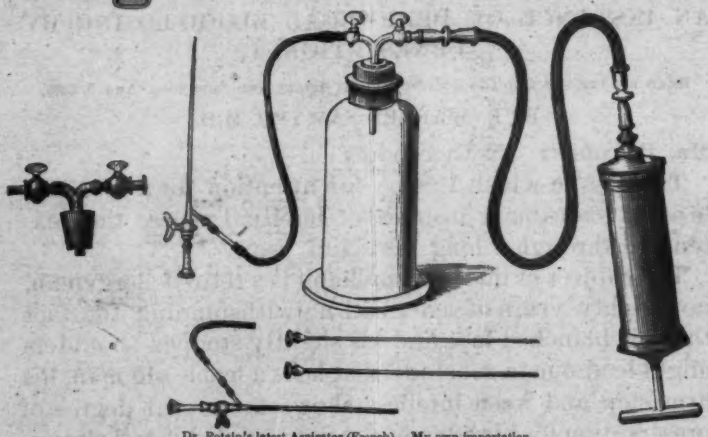

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THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXII. — SEPTEMBER, 1875. — No. 9.

Original Communications.

AN INSTANCE OF PERIODICAL BLOOD-LOSING BY VENESECTION.

READ BEFORE THE CHICAGO SOCIETY OF PHYSICIANS AND SURGEONS, AUG. 9, 1875,

BY E. WARREN SAWYER, M.D.

MR. PRESIDENT AND GENTLEMEN:

The case to which I ask your attention for a moment, is an extraordinary instance of habitual venesection, extending through a long period of years.

The subject of this unusual habit is a retired clergyman, now eighty years of age; and notwithstanding the fact that his blanched face and his slightly stooped shoulders might lead one to conclude that he is a feeble old man, his firm step and keen intellect show an unusual degree of preservation for his advanced years; while his tall stature and immense frame speak of the great physical development which he enjoyed in his youth and early manhood. He has told me that he was an unusually vigorous man, and his entire life has been singularly free from sickness.

He was the son of a farmer, and in his boyhood, worked with his father on the farm. When he was seventeen years old, in the spring of the year, he yielded to the

custom which prevailed universally at that period, and was bled for the first time, for no especial reason; this habit of spring time bleeding was followed for the succeeding six years, when he entered college to prepare for the ministry. One of the effects of giving up the active work of a farmer, for the sedentary habits of a student, was a constant heaviness, to relieve which, he resorted oftener to the lancet of his physician, who, in those days, was ever ready to "let blood." During the next ten years, he was bled four to six times each year; always losing from ten to fifteen ounces of venous blood. During the few succeeding years, the frequency of his bleedings was gradually increased, until, at the age of forty, he demanded to be bled once in three weeks; nor has the frequency of the bleedings, or the amount of blood taken, ever grown less. For forty years, has this man suffered the extraordinary loss of eight or ten ounces of blood regularly every three weeks. Some idea of the magnitude of this loss may be formed, by recalling that during this long period, the body of this man has manufactured more than a barrel of blood, which has been taken from his veins! He declares that he was always made better by the bleeding; that letting a half a bowl of blood was like stimulating him; at all events, there is, in his long, active life, ample proof that the frequent blood-letting has never been especially detrimental to his health; for, until he retired from the pulpit, ten years since, he was a hard working minister and for many years a circuit preacher, in Western New York, and frequently was forced to make large circuits on horse-back, exposed to the inclemency of all seasons; still his health has ever been good; nor is he to-day incapable of work —within a month he has assisted in the public dedication of a church in this city.

I made the acquaintance of this gentleman about two and a half years since, in Detroit, when I learned his singular habit; for the past nine months he has been residing with a daughter in this city, and has been under

my direction; during this time I have not once failed to bleed him every three weeks, letting from eight to ten ounces of blood.

The demand for the blood-letting is shown by a dyspnœa, which he suffers the last three days and nights of the interlude; so extreme is this, usually, that he is obliged to spend the night in his chair, just before his bleeding day; besides the dyspnœa, there are other evidences of almost venous stasis in the dark, livid lip and the purple finger nails. Immediately after the bleeding, all dyspnœa has disappeared; the lip is red, and the finger nails are no longer purple; besides this, the spirits of the old gentleman seem lighter; he grows talkative; his voice is no longer husky, and he seems in every respect better.

The appearance of the blood which is drawn presents nothing unusual; compared with the blood of healthy subjects, under the microscope, there does not seem to be a paucity of corpuscular elements.

I have made frequent auscultatory examinations of his lungs and heart, with this result, viz., the percussion resonance is slightly increased, over both lungs, more especially at the apices, and the respiratory murmur is less intense than one would expect through such thin chest-walls; in short, there is evidence of a moderate degree of vesicular dilatation. In this connection I may add that he has had, for years, a slight bronchial catarrh, but has never suffered from spasmodic asthma.

I elicited no evidence of organic change in his heart; the sounds are heard feeble but uncomplicated. The action of the heart is not rhythmical; strictly there is no intermission in its revolutions; a contraction of the organ is not omitted, but quite regularly, once in about seven pulsations, there occurs a too short interval between the revolutions; sometimes two of these short intervals are consecutive and then the normal rhythm is observed for a moment. After bleeding, the abnormally short intervals occur less frequently than before.

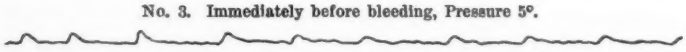
With a view of learning the effects of the bleeding upon the character of the radial pulse, the effects which were too slight to be appreciated by other modes of examination, I have resorted to the sphygmograph, and have taken tracings, at three different degrees of pressure, both before and after the bleeding.

The tracings taken at 0° pressure, one just before bleeding, the other immediately after the bleeding, are not unlike, and present no distinctive features. But by comparing the tracings taken respectively at pressure 2½° and 5°, one of each taken immediately before bleeding, the others thirty minutes after the bleeding, it is readily seen that the amplitude in the second tracing is greater than in the first; showing that the force of the heart's impulsion, in this instance, is really increased by diminishing the volume of the blood.

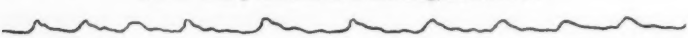
No. 1. Immediately before bleeding, Pressure 2½°.

No. 2. Thirty minutes after bleeding, Pressure 2½°.

No. 3. Immediately before bleeding, Pressure 5°.



No. 4. Thirty minutes after bleeding, Pressure 5°.



It is important to observe that the radial artery felt beneath the finger like a hard, round cord, and the artery followed a serpentine course; probably its walls are the seat of atheromatous change.

Further, I may add that the seat of the phlebotomy was always at the bend of the elbow; sometimes the median basilic, at other times the median cephalic vein, of the right or left side, was the vein chosen; and, notwithstanding the cicatrices which marked the innumerable wounds somewhat obscured the anatomical relations of the region, still bleeding was never difficult.

The interesting features which the history of the case contains are, viz.:

First, the physiological interest which is attached to the fact that the blood-making function of this man's body has always been unusually active; and further, that there has never been a demand for a peculiar diet, beyond the fact that his appetite for animal food has always been noticeable; his digestion is still unimpaired.

Second, the clinical interest which belongs to the fact that the frequent and large losses of blood have never seemed to be hurtful or debilitating.

Third, the practical importance of observing great circumspection in repeating venesection at short intervals, else the habit of periodical blood-losing might be established; and this habit, which necessarily subjects the victim to great annoyance, and pain, would, in a less favorable subject, be destructive.

Finally, the question may be asked, could not the habit of periodical blood-losing have been averted in this case? or, when the habit was formed, could it not have been relinquished? The history shows that the first bleeding was not actually demanded; the same is also true of many succeeding bleedings. Undoubtedly there have been periods when it was practicable to break up the habit, either gradually or suddenly; but for many years past, and especially during my acquaintance with the gentleman, I am of the opinion it would have been detrimental to him, and perhaps fatal, to have attempted a reformation: nor is it probable that his future will offer a moment when the habit can be abolished.

"WARM AND HOT WATER IN SURGERY."

By C. HENRI LEONARD, M.D., Detroit, Mich.

This article is not written so much to call attention to the efficacy of this plan of treatment, as to set aright some of the current opinions as to its originator.

The recent publication of Prof. Hamilton's *brochure* in your columns, has more particularly called my attention

to the matter. Therein it seems to be fathered upon the French Surgeon, Amussat; possibly, though, in the translation Prof. Hamilton refers to, *The Use of Water in Surgery*, proper reference to old authorities has been made. I have not the *Buffalo Journal* at hand to refer to, in which Prof. Hamilton's translation was published, so presume upon your patience to the following amount of quotations from the good old Hippocrates.

Hippocrates was a firm believer in the efficacy of hot and warm water; indeed, his works upon "Ulcers," "Fractures," and "Dislocations," teem with it. In his 22d Aphorism, Sec. V, (Adams' translation), he says: "Heat is suppurative, but not in all kinds of sores; but when it is, it furnishes the greatest test of their being free from danger. It softens the skin, makes it thin, removes pain, soothes rigors, convulsions and tetanus. *It is particularly efficacious in fractures of the bones, especially of those which have been exposed, and most especially in wounds of the head, and in mortifications;* in herpes exedens, of the anus, of the privy parts, THE WOMB, the bladder, in all these cases heat is agreeable, and brings matters to a crisis, but cold is prejudicial and does mischief."

The italics, etc., in the above are my own. You notice it covers almost entirely the ground gone over by Prof. Hamilton, and is laid down in so positive a way, as really to surprise me that all reference to this statement by Hippocrates should have been overlooked. There is another point to be taken into consideration, "the womb." Dr. Emmet lays claim to the originality of hot-water uterine applications; he has told me so by word of mouth, adding that he got the idea from the late Dr. Pitcher, of this city. On p. 21 of his brochure upon "The Philosophy of Uterine Disease," published last year by the Appletons, he refers to the same in a foot-note, ending it with, "Certainly no one in this country is on record as an advocate for the practice previous to myself; and, as far as I have been able to ascertain, the same is true in

regard to the practice of gynæcologists abroad." Yet, you can see how plainly the practice (in theory at least) was understood by the old Hippocrates. I shall refer to this hot-water uterine treatment, in another Hippocratic statement, before I am through.

It was customary with Hippocrates, as the aphorism indicates, to use hot water freely in fractures, etc.; hence it is with no surprise that we find the following in his "Surgery:"—"As to the temperature and quantity of the water used, its heat should be just such as the hand can bear [about 110° Fahrenheit, C. H. L.], and it ought to be known that a large quantity is best for producing relaxation and attenuation [does he not mean by that what we now call a contraction of the arterioles, veinlets and capillaries, *a la* Emmet? C. H. L.], whereas a moderate quantity is best for incarnating and softening. The limit to the affusion is, to stop when the parts become swelled up, and *before the swelling subsides* [the stage of "pelvic contraction," of Emmet, C. H. L.]; for the parts swell up at first, and fall afterwards."

In "Fractures," he says: "When you remove the bandages, you must pour hot water on the arm and bind it up again." In another place in the same treatise, he says: "At each time the bandages are taken off, much hot water is to be used; for *in all injuries at joints* the affusion of hot water in *large* quantities is to be had recourse to." In still another place in the same treatise, he refers to the practice in this wise: "We must avoid wetting it [an exfoliating fracture] at the beginning with anything *cold*."

In the "Mochlicus," he says: "They [dislocations] should have more copious affusions of water" [hot.] He reiterates the same expression still farther on when treating of the special dislocation of the os calcis.

Again, in the "On the Use of Liquids," one of the treatises generally ascribed to Hippocrates, we have this hot-water question pretty thoroughly canvassed. I give but three condensations: Hot water promotes ulceration in all cases, softens the skin, attenuates it, is anodyne,

soothes rigors, spasms and tetanus, etc. Again: It is *most particularly applicable in fractures*, when the bone is laid bare, and especially in injuries of the head. [I have found the most immediate relief, and really quite permanent, from hot-water douches (two quarts or more) in cases of acute nasal catarrh. In my own person, I rarely employ anything else. I always add a tablespoonful of common salt to the water, and when taken at or near bed-time, it produces speedy languor and sleepiness; probably from the contraction of the brain arterioles. Some of the most violent cases of hemicrania (paralytica, probably), I have found greatly relieved by *hot* fomentations, when ice was unbearable; I remember a case, in particular, where everything had been used most assiduously for 24 hours, and yet the patient, a male, about 40 years of age, was fairly blind with pain. At last *hot water* suggested itself, and after the second removal of the flannel compress, the patient was in a sound sleep. He had no return for some ten days, the longest time of immunity he had had in some time.] Again, quoting from this treatise: Hot water agrees with all ulcerations in herpes exedens, in blackened parts, [gangrenous?] and in diseases of the ears, anus, and *womb*.

The quotations certainly show that hot water was in common use by the ancients for the very same purposes that we now apply it; the only difference seeming to be in the manner of its employment in the case of fractures; they employed prolonged affusions, whereas now we are recommended by Hamilton to use the constant bath, or else, (still nearer the Hippocratic manner,) "*thoroughly saturated fomentations.*"

Since I received verbally from Dr. Emmet the wonderful effects of hot vaginal douches, I have had them in constant use among my female patients. They are one of the best "soporifics" that a hysterically nervous female can take. I always take especial pains to order one at bed-time, in these cases, and rarely fail of getting a good night's repose for my patients. They soon "see how it is themselves," and become actually solicitous for their

nightly douche. Yet, even this soporific tendency was well known in the days of Hippocrates, for he speaks of it as one of the *sequelæ* of hot water applications.

Prof. Agnew, of New York, was the first, and, if I remember aright, the only one I have heard to recommend continuous baths of hot water for the eyes, in certain corneal irritations, and chronic granulations. Following his advice, I have found good results to follow such treatment. In this Hippocratic treatise I have just been quoting, I find the following: "In pains, suppurations, pungent tears, and deep ulcers of the *eyes*, hot water is most expedient; when the eyes are merely red, and free from pain, *cold* is to be preferred." The sentiments here correspond almost exactly with those I heard from Prof. Agnew's lips.

I wish to quote one of the Hippocratic thoughts upon cataplasma before closing, for it covers ground that has been, apparently, lost sight of in these later years. I have italicized the special thought to which I wish to call attention. The passage is found in Hippocrates' treatise upon "Ulcers," and reads: "When you seem to require a cataplasm, it is not the ulcer alone to which you must apply it, but *to the surrounding parts*, so that the pus may escape and the *hardened parts become soft.*"

I do not wish to rake up too much "dead" literature; still I cannot help thinking that a judicious acquaintance with these old authors will add much to modern Æsculapian enlightenment.

SULPHATE OF CINCHONIDIA.

By EDMUND ANDREWS, M.D.,

Professor of Surgery in Chicago Medical College, etc.

This is one of the neglected products of Peruvian bark, which is, apparently, worthy of a much more extensive use than it has hitherto had, especially as it is nearly equal to quinine in efficiency, is less disposed to disturb the brain, and is far cheaper.

The following facts and statements are of interest in this connection. My own experience with it is not large, because a surgical practice affords few opportunities to test it as an antiperiodic; but the results of observations made by others have fallen into my hands in such a manner as to seem worthy of decided attention.

Case First was attacked with a headache, which, by previous experience was expected to last one or two days. Nine grains of sulphate of cinchonidia, taken at one dose, stopped the pain in half an hour, as a similar dose of quinine had occasionally done before in the same patient.

Case Second was a lady, laboring under a slow debility from various causes, and who had been in the habit of using preparations of quinine, etc., as a tonic. This lady was very sensitive to such remedies, and readily recognized their impression upon her. She stated that the cinchonidia acted on her exactly like quinine, except that it produced no unpleasant sensation in the head.

Case Third was a neuralgia, which yielded to a large dose of cinchonidia, very much as it probably would have done to quinine.

Prof. Lester Curtiss, of Chicago, gives me the following observations: "I have prescribed it in dispensary practice, in malarial troubles of children, in about the usual doses that I have been accustomed to use of quinine, with the result, usually, of interrupting the symptoms. The cases in which I have employed it, however, were mild attacks. I have found it of use also, in one or two instances, in mitigating the symptoms of hectic occurring in consumption.

"I have tried the drug on myself also. Feeling the premonitory symptoms of intermittent, I began taking the cinchonidia in indefinite quantities, and at irregular intervals. I probably took from two to four grains two or three times a day, for a week or more, occasionally missing a day. The cinchonidia was not sufficient to prevent the attack, and last Wednesday, about nine or ten o'clock

in the evening, I had a febrile attack, without any chill preceding. The next day I took four doses of the cinchonidia, of about five grains each; the febrile attack returned the following evening, a little earlier than before. The next day I took two doses of about eight grains each, in connection with five grains of quinine; the fever returned again in the evening, with more severity than before. The next day, Friday, I took fifteen grains more with five grains of quinine, and the attack was still more severe than the day before. My measurement of the cinchonidia was approximate, but I took the trouble to go to a druggist and have him weigh out five grains, so that I could estimate the quantity more correctly, and I think that my estimate statements of quantity are tolerably correct."

Prof. D. T. Nelson, of Chicago, informed me that he had used the sulphate of cinchonidia in Mercy Hospital several times, in the treatment of intermittent fever, generally with good success. In one case, however, of intermittent, complicating Bright's disease of the kidneys, he had failed to control the intermittent with the cinchonidia, but he also found that it was only with difficulty that quinine controlled the trouble. He also stated that he found the cinchonidia less apt to affect the stomach than quinine, and that he had not met with any of the head symptoms which so commonly result from the administration of the latter drug.

Prof. Hollister, of Chicago, gave the cinchonidia a short trial during his service in Mercy Hospital, last September. He does not remember the particulars of his trial, which was not very thorough or systematic. His general impression of the results of his trial is, that it was unsatisfactory, and that the drug would only be of use in the class of cases in which salicin would have the advantage.

I find, quoted elsewhere, the following opinions of gentlemen personally known to me, viz.:

Dr. Wm. E. Quine, Professor Materia Medica, etc., Chi-

cago Medical College, Chicago, April, 1875:—"So far as my experience in the use of cinchonidia has gone, it certainly justifies me in the belief that it ranks equal in power as a tonic and antiperiodic with any of the other derivations of the cinchona."

Prof. H. M. Lyman, Physician County Hospital, Chicago, Ill., May 3, 1875:—"I am now trying the sulphate of cinchonidia with much satisfaction at the County Hospital."

Dr. A. R. Bodley, Athens, Calhoun Co., Mich., November 16, 1874:—"I have given the sulphate of cinchonidia a very fair test, and pronounce it fully equal to sulphate of quinia in malarious diseases. I have used it in about forty cases of intermittent and remittent, myself among the number, and in no case have I failed to produce the desired effects. I thought when I first examined it, that its insolubility in alcohol, acids, etc., would render it objectionable, but I find it produces little or no cerebral disturbance, even when given in large doses. I am satisfied the disease is not as likely to recur after being broken, as when the sulphate of quinia is used.

"I combine about five grains of capsicum to the ounce, and I think it adds to its efficiency, as it does also with quinia."

Statements are published that extensive statistical experiments were made in India, with the various alkaloids of cinchona, which showed that cinchonidia seldom failed to arrest intermittents, ranking, in that respect, so close to quinia as to be practically equal.

Owing to my own practice being purely surgical, I only see intermittents when they occur as a complication in surgical cases, hence I am unable to present any statistics of my own, but the conclusion impressed on my mind is, that cinchonidia is an extremely valuable agent, and that given in little larger doses than quinine, it is nearly or quite equal to the latter, with the advantage of producing less disturbance in the head.

EPITHELIOMA OF THE PREPUCE, AND A SINGULAR ANATOMICAL VAGARY.

By A. L. WRIGHT, M.D., Carroll, Iowa.

Dec. 25. Thomas Wilson; married; age, 28; occupation, shoemaker; nativity, Scotch-Irish. Has been complaining for some months, of progressive weakness, or "laziness," as he expresses it, and vomiting on rising in the morning. The matter vomited consists of a colorless fluid, evidently water and mucus; does not feel sick or nauseated before vomiting, nor does he experience pain. A drink of water before rising would prevent the vomiting. Appetite is very good, food occasions no distress. There was great thirst, especially at night; this had existed for years, ever since he was a child.

Has always passed large quantities of urine; on examination I found it of a pale straw color, a very slight deposit on cooling, absence of glucose and albumen—(did not examine the urine as I desired, for want of chemicals and apparatus). Complains of a slight itching pain at the meatus urinarius, on micturition, has to get up several times during the night to urinate. There was a muco-purulent discharge from the urethra, very fetid; it did not pass while urinating, but during the interval. Skin dry and rough; bowels have been regular; light hurts his eyes, "they are weak," as he expresses it; conjunctiva pale; there was a dark, semi-solid substance adhering to his teeth, it would collect in a short time after cleaning them, it seemed to exude from his gums; epistaxis occurs on the least exertion; tongue clean, large and flabby. He presented that peculiar cachectic appearance so characteristic of malignancy; pulse 70; full and regular; respirations, 20. Had been troubled for some time with cramps of the flexor muscles of his legs, especially at night, occasioning great distress and loss of sleep.

The treatment was calculated to build up and give tone to the system:—Fresh air; baths, a nutritious diet,

bismuth sub. nit. to allay irritability of the stomach, with ℞. Tinc. Ferri Mur., ℥j; Quiniæ Sulphas., ʒj; Strychniæ Sulphas., gr.j; Syrup Aurantii Cort., ℥iij. M. S. Teaspoonful three times a day.

Dec. 31. Discharge from penis has entirely stopped; thirst not so great; cramps do not trouble him much; rests well at night.

Jan. 4. Says something broke in his penis during the night, bled freely for a few minutes; feels better this A. M. An examination reveals that the discharge comes from between the glans penis and prepuce; in attempting to retract the prepuce, which is swollen and agglutinated to the glans by a thick, pultaceous substance, he experiences great pain and faintness, so that I am compelled to desist. Direct that he syringe the part, by passing the nozzle of a syringe between the glans and foreskin several times before my next visit.

Jan. 7th. Vomited several times last night; is very much prostrated this A. M.; am able to retract prepuce; find the glans covered with the sebaceous secretion of the glandulæ tyronii; the papillæ around the corona are enlarged; on either side of the frænum preputii, I find a small tumor about the size of a bean, on a firm, hard and inflamed base, covered with a dark, foul, ulcerating surface, discharging a muco-sanguineous fluid, very offensive, bleeding freely if the ulcerated surface is touched; the prepuce has also partaken of the disease. I considered it malignant, and advised its removal as soon as the patient's condition would admit of it. Lymphatics are not involved. I cauterized the tumor to check hæmorrhage which was considerable in the aggregate, also used disinfectants.

Jan. 8th. Hæmorrhage from his gums is more copious; his breath is very offensive; vomited this morning a dark colored fluid, resembling coffee grounds; has some pain in epigastrium when vomiting; pressure does not cause pain; pulse 70, full and regular.

Jan. 11th. Continues the same.

Jan. 12th. Patient is very much prostrated; hæmorrhage from gums and penis is very copious; blood does not coagulate. Applied basilicon ointment to penis, and gave the following three times a day: ℞. Tinc. Ferri Mur., Acid Sulph. Aromat., *aa* fl. ʒvj; Syrup. Limonis, fl. ʒiij. M.

Jan. 13. The under surface of the prepuce is very much swollen, great difficulty in drawing it over the glans. Appetite continues good, although he frequently vomits up everything he eats; bowels regular; rests good at night. Milk punch to be given freely.

Jan. 14th. Hæmorrhagic tendency increasing; slept none last night; had considerable pain on left side, below and left of nipple; percussion resonance normal; discovered friction sound with inspiration on that side; pulse, 70; respirations, 20; has vomited several times the dark coffee ground fluid, very offensive. Gave Morphiæ Sulph., gr. ¼, every hour, until relieved. Sp. Vini. Gallici, ʒss, every hour.

Jan. 16th. Is unable to void his urine; passed catheter, and drew off three pints of high colored, very offensive urine; bowels have not moved for several days. Gave an enema. Is entirely free from pain. Did not examine his chest.

Jan. 20th. Patient is failing rapidly. Died at three P. M.

Autopsy, nineteen hours after death, revealed the following curious and rare anatomical anomaly: Lungs and pleura healthy; the pericardium contained half a pint of serum; there was a copious fibrinous exudate into the pericardial sac; the heart was enlarged, the walls friable; dangling in each auriculo-ventricular opening was a white fibrinous clot about two inches in length; there was a fibrinous exudation adherent to the endocardium of each ventricle, none on the valves; there was a small earthy concretion on one segment of the mitral valve; the endocardium of the auricles was healthy in appearance.

The cardiac end of the stomach presented a dark mottled appearance, that of passive congestion; the parietes of the same were thickened; the pyloric end was normal. The walls of the duodenum were thickened somewhat; jejunum and ileum normal; ascending colon was filled with scybala; liver, spleen and pancreas presented a normal appearance; there was cystitis. Finding no kidneys in the lumbar region, I began at the bladder, thought I would trace the ureters to their termination; there was but one ureter: that entering directly into the bladder at the base, and not passing between the mucous and muscular coats before entering. It was about four inches in length, and about one-fourth of an inch in diameter; following it I found but one kidney, situated back of the rectum, and just below the promontory of the sacrum, in the mesial line. The kidney was lobular, less firm than normal, weighing but three ounces. The vessels and ureter entered on its anterior surface; there was one artery and one vein.

The pathology appended has kindly been furnished by Dr. I. N. DANFORTH, to whom I sent the kidney.

NOTE BY DR. DANFORTH.

The specimen alluded to, came safely to hand. It is manifestly more interesting from a physiological than a strictly pathological stand-point. The kidney is distinctly lobulated, like the kidneys of the fœtus, and of the lower mammalia; six very distinct lobules are very easily made out. The organ is triangular in shape, and at the apex of the triangle it is quite thin. Its pelvis is immoderately large in proportion to the size of the organ, and the same remark is true of the size of the ureter and calyces. There is no "hilus," but the ureter and blood vessels find entrance and exit upon what I take to be the anterior aspect of the organ. Upon examining the artery and vein I find that they also are out of all proportion to the size of the organ, so that this little kidney must

have received nearly as much blood as both kidneys ordinarily receive. Seeing that its weight is only two ounces and a half, (in place of four and a half ounces, the average weight of the normal kidney), it is interesting to inquire why so large an amount of blood was required, and how so large an amount of urine was secreted.*

Upon laying the kidney freely open, I find that the usual abrupt division into "cortical" and "medullary" portions is wanting; there are no "pyramids" at all; the pelvis, instead of being a single well defined cavity, spreads out into several deep "cornua" or excavations, which penetrate in different directions. These channels are simply so many branches of the ureter, which together constitute the capacious pelvis, and then branch off in different directions to gather the urine directly from the secreting portion; that is, without the usual intermediary conducting apparatus—the so-called "pyramids," which are made up mainly of the "tubuli recti," whose function is simply to conduct the urine from the convoluted tubes to the cavity known as the "pelvis."

The revelations of the microscope concerning this singular kidney are very interesting. I made thin sections from all parts of the organ and have studied many of them, in different media, (glycerine, damar, and balsam), some of them stained with logwood, others with carmine, and still others with a weak aqueous solution of iodine. I notice the following points:

First. The malpighian bodies are unusually large—indeed, the largest I ever saw—and the coil of blood-vessels within them unusually complicated and dense. The afferent vessels are exceptionally large, and their longitudinal and circular fibres can be demonstrated with great perfection.

* In relation to the weight given above, I should remark that considerable allowance must be made for loss of water occasioned by immersing the specimen in alcohol for preservation; the action of alcohol being to rob the tissues of water. After soaking the kidney in water for five hours, I find that it has gained three-quarters of an ounce. I presume that three and a half ounces would be about an "honest" estimate.

Secondly. The arteries and veins ramifying in the substance of the organ are everywhere very large as compared with the size of the organ, and their structure is very easily demonstrable.

Thirdly. The tubuli uriniferi are everywhere quite large, and they are coiled in the most compact and complicated manner; indeed, they seem to be packed away with the view of storing the greatest amount of "working" material in the smallest possible space.

Fourthly. The endothelium of the convoluted tubes just alluded to is very distinct and prominent. This is especially true of a freshly cut section, dipped in dilute acetic acid, stained with a weak solution of iodine and then mounted in glycerine and examined *at once.* I have never seen the secreting structure of the human adult kidney so handsomely displayed before.

Lastly. I do not find in any single section, any of the "tubuli recti" which compose the "pyramids" of the typical kidney: the convoluted tubes seem to have poured their secretion directly into the elongated "calyces," or branches of the ureter, before spoken of, which extend into the kidney structure and supply the place of the "pyramids."

From this account it will be seen that this kidney was almost wholly composed of secreting structure and malpighian bodies. Into the smallest space the largest possible amount of secreting surface was packed. Hence the large blood vessels and the large ureter were matters of necessity. I do not think it an extravagant statement to say, that this one small kidney contained as much secreting surface as both kidneys ordinarily contain; for it must be remembered that in the typical kidney the cortical portion forms but a comparatively small part of the organ, while in the specimen now under consideration the structure was entirely of that nature. Hence it is not difficult to believe that this kidney, by "working hard" was able to perform the duties of two kidneys in a manner acceptable to the economy.

THE MICROSCOPE IN DAILY PRACTICE.

(FIRST PAPER.)

By I. N. DANFORTH, M.D.,

Lecturer on Pathology in Rush Medical College, Chicago.

The great problem in connection with the microscope now-a-days is, *not* how to make it more "perfect," more complicated and more costly, but how to make it more available. Our students generally look upon the microscope as a kind of "luxury," only to be indulged in after the inevitable amputating case, or the more formidable "omnibus" case, has been purchased, exhibited and adored. And yet, every physician of experience would tell the student that the little pastime of cutting off arms and legs is generally far to seek, while the microscope is constantly and practically useful. Scarcely a day goes by, that a physician in active practice could not, with great benefit, employ the microscope for purposes of diagnosis; in a vast number of cases it is essential, and in not a few it simply comes to this—no microscope, no *certain* diagnosis. A physician has no right to go blundering along through the bogs and fens of guess-work, when for a moderate outlay he can command the means necessary to reach *certainty*.

More than this, the microscope is a constant educator; it widens the boundaries of the student's knowledge; it turns his thoughts into new channels; it reveals the secrets of nature's dainty handiwork; it shows him forms of beauty that were else unseen; it tempts him to a wider range of scientific study; and by so much as it adds to his culture, and enlarges the range of his mental vision, does it increase his power and influence in the community. Nor is it intended to limit the term "student" to the young man just from the lecture room. I can point to a man of wealth and broad scientific culture, well up among the "sixties," gray-haired and spectacled, who has lately become the possessor of a fine microscope, and I have never seen a more delighted, enthusiastic or pains-taking "student" of microscopy.

Considering, then, the vast and growing importance of the microscope in practical medicine, and as a means of scientific research, I do not think I shall need to apologize to the readers of the JOURNAL AND EXAMINER, if I print therein a few brief articles concerning the instrument and its proper and profitable employment.

As a general rule, the first thing in order is the purchase of a microscope; and it is also quite true to say that as a general rule the purchaser gets cheated. The uninstructed purchaser asks at once of a given microscope, "how many diameters does it magnify?" whereas "diameters" are about the cheapest, as well as the most useless, quality in connection with a microscope. Not one in ten amateurs takes pains to inform himself in regard to the points really desirable in a good microscope; hence he is more than likely to buy the instrument that furnishes the greatest array of polished brass, the greatest number of milled-headed screws, and the most formidable tangle of complicated tackle. At all events, he is compelled to take the judgment of dealers, and dealers look at microscopes from the stand-point of profit and loss. A student once told me that his preceptor possessed a microscope which magnified *five thousand diameters* and cost *fifty dollars!* I have envied that "preceptor" ever since. If I could have my say, I would advise every one who contemplates buying a microscope, to first procure some standard work on practical microscopy, and carefully read it; it would save a multitude of blunders. The question immediately comes up, "what work is the best?" I believe the best physicians' hand-book of microscopy yet published, is that of Richardson, of Philadelphia; it is practical, concise, cheap, and, in the main, accurate and reliable. Among more elaborate and costly works, Beale's "How to Work with the Microscope," is perhaps the best; Frey's "Microscope and Microscopic Technology," next; and Carpenter's "Microscope and its Revelations," last. This, however, is a matter of opinion, and I am simply giving *my* opinion.

I am very positive, however, that the beginner can very profitably study either of these excellent authorities before buying a microscope.

What constitutes a good microscope?

1st. It should stand firmly upon a broad and somewhat heavy tripod base, and the three arms of the tripod should be sufficiently long to insure perfect steadiness, in whatever position the instrument is placed.

2d. It should be perfectly free from lateral movement or oscillation, when the focus is changed by turning either of the adjustment screws, and this should be equally true whether the instrument be vertical, inclined or horizontal.

3d. The body or tube ought always to be attached to the base by a firm joint, so that any position from vertical to horizontal can be secured. This is an exceedingly important point. Every practical microscopist knows how very tiresome it is to work with an instrument which is fixed in the vertical position like the old-fashioned Oberhauser instruments, and some of those now made in Germany.

4th. The stage should be large enough not only for the free movement of objects fixed upon glass slides, but for the attachment of stage forceps, a frog plate and an animalcule cage; a revolving diaphragm, having five or six openings, should always be fixed below the stage; the mirror should be large, should have two surfaces, plane and parabolic, and should be capable of free lateral movement, so as to enable the observer to employ oblique light when desirable. No stand is worth much which does not combine these indispensable requisites. So much for the "stand," or mechanical portion.

The optical portion of a good, serviceable microscope should include at least:

(*a*). A No. 1 eye piece—perhaps more generally called in this country the "A" eye piece. It is very common to have two eye pieces, Nos. 1 and 2, or the "A" and "B" eye piece, the latter possessing a higher amplifying power than the former; but I am persuaded that very

little is gained by high eye pieces. The eye piece can only magnify the magnified image, and this can only be accomplished at the expense of definition and clearness. I suppose that the diatomists find great benefit from the use of high eye pieces, but for histological purposes they are not generally useful. It is far better to put the magnifying power into the objective.

(*b*). Two first-class objectives should accompany every physician's microscope, namely, an inch and a quarter inch, or a fifth. (By "inch" and "quarter inch" it is merely intended to say that the former has a focal distance of one inch, and the latter a quarter of that focal distance—statements that are perhaps never *exactly* but only *approximately* true.)

By "first-class" objectives, I do not, by any means, refer to those which are the most costly. The cost of an objective depends largely upon its "angle of aperture," and the "angle of aperture" is the "angle made by two lines from opposite sides of the aperture of the object glass with the point of focus of the lens."* Now the objective makers, being incited thereto by those enthusiasts who have gone crazy on the subject of "diatomes," have themselves gone crazy on the subject of "high angles," which, as Beale remarks, are "valuable for investigations upon many very delicate and thin structures, such as the diatomaceæ; but such powers are not well adapted for ordinary work,"—that is, for histological work. Some of the "high angle" quarters and fifths, of the best makers, cost as high as forty or fifty dollars, which is simply an absurd outlay of money, unless the purchaser proposes to spend his time in the comparatively useless work of "resolving" the markings on the more difficult diatomes, or other "test" objects. I believe the most useful quarter or fifth inch objectives for histological investigation and diagnostic purposes—indeed for the general wants of the practitioner—are those whose angular aperture is not over 70 or 80 degrees, costing, in

* Beale: "How to Work with the Microscope," 4th ed., p. 7.

currency, not more than from fifteen to twenty dollars, or at most, twenty-five dollars. The inch objectives do not vary so much. There is little difficulty in procuring a good one; those made by Tolles and Wales are especially good; and I may add, that Hartnack's are of equal excellence.

(*c*). A condensing lens, or "bull's eye," should accompany every physician's microscope. It is all but as indispensable as an objective. It is constantly needed for the examination of objects by "reflected" light, and at the same time it furnishes, without extra cost, a large "hand magnifier," which is exceedingly useful for very many purposes.

In this brief list, I have included everything *necessary* for a really good and serviceable physician's microscope; and such a microscope every physician ought to possess and *use*, just as constantly as he does his stethoscope, his fever thermometer, or his urinometer.

In a future paper, I will endeavor to show the minimum cost of such an instrument, and also say something as to the merits of the instruments of different makers.

GLYCERIN IN THE TREATMENT OF DIABETES.—M. Garnier has addressed a note to the Académie des Sciences on the employment of glycerin in the treatment of glycosuria. M. Schutzen, of Dorpat, has shown by his researches that glycerin either alone or associated with tartaric acid, and taken in the dose of half an ounce to an ounce and a half in the course of twenty-four hours, constitutes a valuable adjuvant to the régime especially adapted to glycosuria. M. G. has himself made use of purified glycerin, and has made it more palatable by mixing it with a certain amount of alcohol and of aromatic substances (mint, anise, bitter orange.) The employment of glycerin has aided him greatly as well as other patients.—*Bull. Gén. de Thérap.*, No. 10, 1875.

Editorial.

Two journals, possessing, in a high degree, respectability and influence, have been published in this city for a number of years, under the auspices of the two Medical Colleges located here.

To a certain extent they were regarded as the organs of these institutions, and although liberal and high-toned in their character, it was difficult for the profession to consider them in any other light than partisan.

About a year since, a few medical gentlemen conceived the idea of starting another journal, which should have no bias toward any institution or party; one in which all members of the profession could unite their energies for the advancement of medical science.

With this view, the enterprise which finally led to the union of the two existing journals under a new order of things, was inaugurated by Drs. Etheridge, Bridge and Hyde. These gentlemen, with others of their friends undertook the organization of a joint-stock company, to be entitled "The Chicago Medical Press Association," for the purpose of publishing a medical journal, and the establishment of a medical library and reading rooms for the benefit of the members of the Association.

The organization is now complete, the journals are united under the name of the CHICAGO MEDICAL JOURNAL AND EXAMINER, and the Medical Press Association is responsible for its editorial management.

This, we think, is sufficient guarantee for the scientific and practical character of its contents, and the purity of its ethics. It is also an assurance to the profession that the JOURNAL AND EXAMINER will be conducted in a spirit of true catholicity for the advancement of the science of medicine and the promotion of fraternity among physicians.

To place its success and permanency beyond question,

we have only to add, that its business management and publication are entrusted to the extensive and widely known publishing house of W. B. KEEN, COOKE & Co., of this city.

The editors invite all members of the profession to contribute original articles to the pages of the JOURNAL AND EXAMINER, and promise them, in return, that their communications will be appreciated and proper consideration bestowed upon them.

There are many men among us who possess the ability and qualifications to distinguish themselves, but whom reticence—from either diffidence or indifference—has withheld from their deserved positions. To them we appeal for aid and support in making a first-class periodical.

Our circulation for the remaining portion of the year is large, as our subscription list contains the names of all the subscribers of both the CHICAGO MEDICAL JOURNAL and the MEDICAL EXAMINER, and we confidently anticipate that it will be more extensive next year; hence, our contributors by their communications will reach a great number of intelligent and appreciative readers.

Remembering that we have received our young protege from the hands of experienced and accomplished editors—men of extensive reputation and fame—we can but feel a sense of diffidence, and a distrust in our ability to maintain for the JOURNAL AND EXAMINER that high position which its two predecessors have attained through their agency. We promise, however, an earnest and industrious effort to succeed in that arduous undertaking.

Our facilities for obtaining foreign and domestic exchanges are such as to assure us that we shall soon be in receipt of the most valuable periodicals from the medical centres of the world. From them we hope to glean all new facts and discoveries upon their first appearance.

We expect to make the excerpt department of the

JOURNAL AND EXAMINER a very interesting and profitable one.

In our own city we are perfecting arrangements by which reports from the vario us Hospitals and Societies of Chicago will appear upon our pages in such a way as to make them a mirror of the practice of our industrious and accomplished corps of teachers and investigators.

We are already promised correspondence from many of the great cities of this country and Europe, and before long this also will be an important department.

Finally, we very respectfully salute our senior contemporaries in journalism, and bespeak for ourselves a fraternal reception among them, and we promise, in return, every effort to deserve well from them.

The *New York Medical Record*, of August 7, 1875, erroneously announces that "the CHICAGO MEDICAL EXAMINER, heretofore published by N. S. Davis, M.D., and F. Davis, M.D., is to be consolidated with the CHICAGO MEDICAL JOURNAL. After Aug. 1st it will be known as 'THE CHICAGO MEDICAL JOURNAL AND EXAMINER,' and will be edited by Drs. J. Adams Allen and Walter Hay."

We trust that the foregoing statement, which results from a total misapprehension of facts, will not be repeated or copied in other of our Exchanges. The Chicago Medical Press Association is a stock corporation, which includes various physicians of this city who represent, it is believed, all its different medical institutions and hospitals. *They* have succeeded in securing possession of *both* the medical journals heretofore published in Chicago, and have consolidated them under the name of the "CHICAGO MEDICAL JOURNAL AND EXAMINER." It will be seen that the editors of the new monthly, whose names appear in connection with this issue, are not those announced in the *Medical Record*. The former have been appointed to their editorial duties by the Board of Directors of the Chicago Medical Press Association.

Reports of Societies.

CHICAGO SOCIETY OF PHYSICIANS AND SURGEONS.

Regular Meeting, July 26, 1875.

(Dr. Owens, Reporter *pro tem.*)

Thomas Bevan, M.D., President, in the chair.

HISTORY OF A CASE OF IDIOPATHIC SUBACUTE NEURITIS, AFFECTING THE CRURAL, OBTURATOR AND SCIATIC NERVES.

By Henry M. Bannister, M.D.

The case described was that of a young man, 23 years old, who, after exposure to cold, suffered from violent pains in the left groin, coming on suddenly and continuing several hours. After their disappearance, tenderness and soreness, with a considerable degree of weakness, still remained in the limb, disabling him from standing at his occupation, that of a painter. This condition lasted several weeks, when a sudden, rather rough handling brought on the pain a second time, and greatly increased the weakness, rendering locomotion difficult. After several weeks of this state of things, he left his work and returned to his home at Evanston, Ill., and put himself under the care of a physician who treated him at first for sciatica. At this time, possibly owing to some feature of the treatment, he suffered an aggravation of all his symptoms. The neuralgic pains increased in frequency and violence, the reflex excitability was greatly exalted, and for several days he was unable to lie down or even straighten his leg. The symptoms as described at this time seemed to resemble those of the second stage of coxalgia, and on this diagnosis he was finally put to bed and extension applied to the limb, with the result of giving partial relief.

At the time when first seen by Dr. Jewell and myself, he had dismissed his physicians and had been under his own care solely for three weeks. His general condition was fair, but he was unable to move his left leg to any

great extent, or to lie on either side, tenderness existed over the adductor muscles, along the course of the sciatic and in the sciatic notch, and to a certain extent all around the hip joint, the tissues in that region being somewhat swollen and tense. The crural nerve seemed less tender. The patient had himself removed the extension apparatus some days before, and now both extension and compression of the joint caused pain, sometimes referred to the knee and sometimes to the groin.

The diagnosis of neuritis being made, the treatment prescribed was absolute rest for the limb, the galvanic current, small blisters around the joint, and occasional friction of some of the affected muscles. The patient's circumstances prevented any costly appliances that might have been useful, and considerably embarrassed the treatment. After three weeks of this treatment, a considerable improvement was manifest. The swelling had largely gone down, the tenderness over the sciatic and around the hip joint had disappeared to a very great extent, and power of motion had largely returned to the limb—so much so, that it seemed advisable to use mechanical means for enforcing absolute rest of the part, which was before insured by its weakness.

The case is yet under observation.

Dr. Bannister considered the case as one of idiopathic subacute neuritis, affecting the obturator, crural and sciatic nerves probably—the first certainly. It is, in many respects, a typical case of this disease; in others, it differs from what is usually described. Its interest is in the comparative rarity of the affection in its well developed form, and although not uncommon it is not an everyday disorder. It probably happens much oftener than it is recognized. Some authors place it amongst the rarest of affections of nerves, *i. e.*, in its idiopathic, non-traumatic form, like the case described, but in this, he thinks, they are in error.

Weir Mitchell's book on nerve injuries gives, perhaps, more information in regard to the subject than any other work in our language. The latter believes fully in it, as a factor in the pathology of many cases of disorder of the nerves. With the exception of papers concerning a similar affection of the optic nerve, and a few on disorders of nerves as productive of certain skin affections, the literature is quite insignificant.

In other languages the same is the case to a very great degree, but foreign text books are, many of them, fuller in their treatment of the subject—Erb, for instance, in his work on the principal nervous affections, in the 12th vol. of Ziemssen's Encyclopædia. The case had been variously diagnosed—hip-joint disease, neuralgia, rheumatism.

Dr. Bannister saw no reason for doubt as to the diagnosis of neuritis. The lack of sensory symptoms, and the rapid and variable character of the paralytic symptoms, are noteworthy. The variable character of the tenderness, now in one place more than another, and then again changing, but nevertheless always persisting to a greater or less degree, is worthy of mention.

Perhaps the best reason for the disproportionate ignorance of this subject, is the fact, that neuritis seldom is fatal when confined to the peripheral nerves, and the central lesions to which it gives rise, are alone noticed in the autopsy. It would require a very careful clinical history and analysis of any case to determine whether peripheral nerve changes are primary or secondary. There is considerable reason to think, that a morbid process starting in the nerves, may rapidly involve the cord and medulla, and cause death.

The case was discussed by Drs. Hyde, Merriman, Peck, and others.

CHICAGO SOCIETY OF PHYSICIANS AND SURGEONS.

Regular Meeting, Aug. 9, 1875.

(Reported by E. WARREN SAWYER, M.D.)

The Society met at the Grand Pacific Hotel. The President, Dr. Bevan, in the chair.

Prof. Freer, the essayist of the evening, read an interesting and extended paper on the subject of transfusion, which will appear, *in extenso*, in the Transactions of the State Medical Society.

The first part of the paper was given to the history of transfusion to the present time.

Two distinct methods of transfusing are known to-day; first, the mediate. The reader exhibited the various instruments which had been used for transfusing mediately; the simple hydrocele syringe he had used more than once successfully, as had also Dr. Hunt. Especial attention was called to an ingenious apparatus suggested by Dr. F. L. Wadsworth, which consisted of a graduated Wolf bottle; in the central opening a perforated, tightly fitting cork was placed, which gave passage to a thermometer, by means of which the temperature of the blood to be used was always known. Through one lateral opening in the bottle, a tube was passed through a tightly fitting cork, one end of which was armed with a blunt-pointed canula which is to be introduced into a vein of the recipient; the other end of the tube reaches nearly to the bottom of the bottle. Through the other lateral opening in the bottle, a tube is passed through a tight cork, one end of which extends a little way into the bottle, the other end communicates with a common Davidson's syringe. The bottle is now to be partly submerged in a vessel of warm water, the temperature of which can be regulated by pouring into this vessel hot water from time to time. By working the bulb of the syringe, the atmospheric pressure within the bottle is increased, and the blood can thus be forced into the receiver's veins.

Prof. Freer gives preference, above all other instruments, to the simple pipette suggested by McDonald, of Dublin.

By the immediate method, the blood is passed directly from the veins of the donor to the veins of the receiver, through a simple tube, with no other *vis a tergo* than the cardiac impulsion of the donor. This method is confined almost entirely to Germany ; in fact, the alarming symptoms which it causes, precludes its use in any other country.

A kind of bogus immediate method of transfusion had been conceived by Aveling, whose instrument is a valveless Davidson's syringe, which is placed in communication with the vein of the donor and receiver. By working the bulb of the instrument, and pinching the rubber tube alternately on the proximal and distal side of the bulb, the blood is aspirated from the vein of one and forced into the other's vein ; the bulb being a substitute of the ventricle of the blood donor.

This is the most dangerous of all modes of transfusion, for it is almost impossible to avoid the coagulation of the blood, and the escape of small clots into the vessels of the receiver.

The virtues of these two methods, of mediate and immediate transfusion, are not comparable. In the one, blood must be used which will coagulate, under some circumstances, despite the greatest rapidity of operation and the utmost circumspection. In the other, blood is used which cannot coagulate ; thus allowing the operator to enjoy the freest leisure at the same time that he entertains no fear that the person will be destroyed by the operation. In fact, "*you cannot injure your patient, if you would*," by using the defibrinated blood.

The reader preferred a whisk of broom corn, made clean by boiling, to all other means of whipping and defibrinating the blood.

Human blood should be used in human transfusion, for recent experiments in animal transfusion have shown

that the blood serum of one species is inimical to the blood corpuscles of another species.

The physiological import of the operation is worthy of the most extended consideration. Prof. Freer reiterated his convictions that there is nothing mysterious connected with the effect of transfusion, as there is in the action of a drug; it should be regarded as a means of nutrition, simply, in which a food is supplied in a form most perfectly digested and prepared, and ready to be assimilated by the various tissues. He is satisfied that fibrine is not essential to the constitution of this perfect food, and further, because its presence adds greatly to the real danger in the operation, it not only *can* be removed without detracting from the virtue of the food, but it *should* be removed in order that the risks of the operation may be averted.

The great reason why so little has been realized from transfusion, is because the nutritive end of the operation is not considered; and because the supplying of this pabulum is not repeated, or, if repeated, an interval is observed, during which the patient dies from inanition.

Prof. Freer alluded to a series of experiments which he had performed,* which showed that defibrinated blood could be kept for a long time without destroying its vitality.

Many instances of transfusion were spoken of which had been performed in this country and abroad. The paper was quite generally discussed by the gentlemen present.

Dr. Bartlett addressed the Society on the subject of determining the amount of urea contained in urine by Apjohn's method. His subject was fully illustrated with chemical apparatus, and by the examination of a specimen of urine. The speaker called attention to the importance of reading the index after the tube had been made to communicate with the retort, and the disparity between the level of the fluid in the containing tube and the inner

* CHICAGO MEDICAL JOURNAL, 1875, No. 7, page 518.

tube be noted, before the urine is mixed with the test solution. This disparity is to be subtracted from the index after the generation of nitrogen has ceased.

Two ingenious and valuable details in this mode of analysis have been suggested by Mr. N. Gray Bartlett. First, the submerging of the retort in a jar of water, to cool the contents of the retort after the generation of the nitrogen. Second, the pouring of the urine into the retort, and having the test solution in the bottle, which is to be mixed with the urine, instead of the reverse order; with this advantage, viz., the test solution may be measured out in little charges which can be kept on hand by the analyst.

Dr. Sawyer reported the case of a gentleman who was the victim of periodical blood-losing by venesection.

Dr. Bartlett exhibited a modification of Neugebauer's speculum, which possessed the advantages over the original, in that it could be used without moving the patient from the middle of the bed, and without an assistant to hold the handles.

POISONING BY STRAWBERRIES.—Dr. Garnier relates a case of fatal poisoning by strawberries (in the *Lyon Médical* for June 20th), occurring in a strong, healthy girl, 15 years of age. Three hours after eating a cup of berries, "he found her in a dying state, comatose, with complete prostration, livid countenance, and a very small, intermitting pulse." All remedial measures signally failed. The writer has seen several similar cases, and has saved four by emetics, but he has lost more than he has saved. Enormous meteorism is speedily produced, and in consequence thereof, in Dr. G.'s opinion, after two hours, emetics are of no avail; instead of emetics, then, ammonia should be given.

Hospitals.

COOK COUNTY HOSPITAL.

Case of Pyonephrosis—(From Notes by D. A. K. STEELE, M.D.)

Thos. M., aged 18; laborer; Bohemian by birth. Was admitted to wards of the County Hospital, June 20, 1874, suffering from obscure renal difficulty. As he spoke English very imperfectly, the previous history of the case was very meagre, and with much difficulty the following history was elicited:

He had not been feeling well for three months; had some difficulty in urinating; complained of occasional pains in the regions of the kidneys, also of cramping pains in the legs. For the past nine days says he has been much worse; pains aggravated; has had occasional rigors; breath short and labored; suffered from occasional convulsions. On admission, patient fairly nourished; skin hot; pulse, 120°; temp., 103°; resp., 36; tongue somewhat furred; face dusky and anxious.

Physical examination reveals lung sounds normal; a soft, blowing murmur at base of heart with first sound; abdomen seems tender on palpation, especially at the sides; has some diarrhœa; makes water frequently, but passes only a small quantity of high-colored urine, which contains a considerable sediment, has a sp. gr. 10.10, contains pus and a large percentage of albumen. Patient was put upon 20 gtt. doses of digitalis and 5 grs. pot. iodid. ter die, and sufficient morphia to allay pain; to have light, nutritious diet.

June 24th. Patient continued nearly in the same condition, respiration becoming more labored, pyrexia more marked; occasionally the patient becomes somewhat delirious.

25th. Patient more delirious; attempted to escape from the hospital last night, and was with difficulty overcome and brought back.

2 P. M. Patient rapidly growing worse; breathing more labored; expression of the face more anxious; eyes wild in expression, pupils dilated; has occasional tetanic convulsions. Died at 2.45 P. M., after a very severe convulsion. Autopsy, eighteen hours after death.

On examination of the brain, found membranes apparently normal; pia mater was partially covered with cloudy serum; found considerable serous effusion about base of brain; brain substance slightly congested, the puncta being very prominent. On opening thorax, found left lung healthy, the right bound down at the apex by old pleuritic adhesions, does not contain any tubercles; heart, normal; liver somewhat congested. On removing the left kidney found it enlarged and lobulated, fluctuating freely, being filled with pus which had so completely distended the pelvis that the glandular structure of the organ was entirely disorganized, leaving only a large membranous sac which was subdivided into several compartments, giving it a multilocular appearance, there being free communication between all portions. Also, found five calculi occupying the position of the calyces, principally occupying the portion around the opening of the ureter, the largest calculus weighing 27½ grains; the ureter was somewhat dilated.

The right kidney was similarly enlarged, and full of pus and urine mixed. Its substance was not so completely disorganized as the left. It also contained four or five calculi, the largest weighing 18 grains and perfectly occluding the opening of the ureter. The right ureter was also dilated. Found the walls of the bladder nearly twice as thick as they should be, and in a state of chronic inflammation. It contained a considerable quantity of turbid urine. Other abdominal organs were healthy. The entire weight of the calculi of both kidneys was fifty-seven grains.

Summary of Progress in the Medical Sciences.

I.—Obstetrics.

1. *Diagnosis and Treatment of Placenta Prævia.* Charpentier. (*Archives de Tocologie.*)

(*A.*) Date of expectation: from seventh to eighth month, rarely the sixth. *Sudden* occurrence and cessation of hæmorrhage, with reappearance at uncertain intervals, and in increasing quantities, till labor supervenes. Absence of ballottement, from interposition of placental mass. Hæmorrhage always external, and continuous with uterine diastole. Expulsion during systole. (*B.*) Artificial delivery most dangerous, and only suitable to urgent cases. Rupture of membranes only admissible when there is partial dilatation—difficult in complete presentation. Ergot greatly increases danger to child, and is contra-indicated in cases of pelvic contraction, organic uterine disease, and mal-presentation. The author regards the plug of charpie or tow (a pound and a half of the former) as best treatment, bladder and rectum having been previously emptied.

The charpie is introduced in the form of small balls, well covered with cerate, twenty or thirty of which have a thread attached. The anterior and (especially) the posterior culs-de-sac are tightly packed, the vagina being filled till the pellets appear externally. Then a handful or more of dry charpie is applied, covered with three or four compresses, and fixed by a T bandage, the whole being left in position from twelve to twenty-four hours. If the charpie at the vulva becomes moist, the plug is imperfect, and should be reapplied.

2. *Sulphate of Quinia as an Abortifacient and Oxytocic.* Chiari. (*Gazetta della Cliniche*, No. 29.)

The author concludes that the disulphate is not an abortifacient, and will not certainly induce premature labor, with or without the aid of mechanical measures.

It should not be relied upon in treating slow, suspended, or irregular labor; and, when indicated by morbid symptoms during pregnancy, it should be administered, not only for relief of the latter, but to prevent abortion or premature labor. The remedy has no modifying influence upon puerperal affections of infectious or sporadic origin.

3. *Treatment of Uterine Spasm.* FRAENKEL. (*La France Medicale*, June 12, 1875.)

The author recommends a novel treatment for relief of uterine spasm during the expulsion of fœtus and placenta. When the spasmodic contraction occurs, whether it affects the whole or a part only of the uterus, whether it acts upon the fœtus or only the placenta, and when introduction of the hand is impossible, it is proposed to give a sub-cutaneous injection of a milligramme of the sulphate of atropine, and of fifteen milligrammes of hydro-chlorate of morphia in solution. Chloroform is then to be inhaled for five minutes. Resolution of spasm rapidly follows, and delivery is not followed by hæmorrhage.

4. *Extra-Uterine Pregnancy.* CONRAD. (*Correspondenz Blatt fur Schweizer Aertze*, No. 5.)

Three cases are reported. In the first, a primipara, an abdominal enlargement was found to be occasioned by left tubal pregnancy, accompanied by grave symptoms. The fœtus formed an encysted tumor, which could be detected through the abdominal walls. An abdominal incision was made, about the middle of the fifth month, and, by that means, bones of the cranium, with other bones and diaphyses, ribs and debris of membrane, were removed. At the end of the sixth month, the resulting fistula closed, and the patient was well—a small painless tumor remaining on the left side of the uterus.

In the second case, pregnancy was complicated by the discovery of a species of mole—the fœtus giving evidence of calcification. Here, also, the patient survived.

In the third case, there were symptoms of peritonitis about the third month. While the possibility of extra-uterine pregnancy was admitted, there was still some doubt as to whether a diagnosis should not be made between pelvi-peritonitis and retro-uterine hæmatocele. Rectal puncture, a few inches above the sphincter ani, gave exit to some clots, and more than an ounce of liquid blood. The patient died in collapse, eight days afterward, and, upon post-mortem examination, the bones of a three months' fœtus were discovered in a sac formed of plastic lymph, to which the intestinal loops adjacent had become agglutinated.

5. *Extra-Uterine Pregnancy.* BANDL. (*Wiener Medizinische Wochenschrift*, No. 32.)

The author reports a case of a woman, 35 years of age, having two distinct abdominal tumors. The left, which was the larger, contained a living child. That upon the right side was of a doubtful nature. The uterus was empty. During the third month of pregnancy, the patient had suffered from symptoms which pointed to the passage of a fœtus into the abdominal cavity. Objection was made to operative interference, and the patient died in violent pain, with great increase in bodily temperature.

Five minutes after death, Dr. Bandl removed a fœtus weighing about nine pounds, which died of asphyxia after the expiration of ten minutes. The cavity in which it had rested was formed, anteriorly and posteriorly, by the abdominal parietes, covered with a dense false membrane, and by agglutinated loops of the small intestine, and the ascending and descending colon. The floor was formed of the pelvic viscera equally adherent to each other. The uterus was five inches in length, and pushed over to the left side. The tumor which had been discovered on the right side, contained the placenta. Near the latter was found the umbilical cord, surrounded by a brown and yellowish envelope, made up of retracted membranes.

II.—Gynecology.

1. *The Epithelium of the Mammary Ducts.* Robin, Ch. (*Jour. de L'Anatomie et de la Physiol.*, No. 4.)

The galactophorous canals are not provided with a mucous lining. Their epithelium is made up of a thick layer of many-sided, almost prismatic cells, having a tolerably large and distinct nucleus. It rests upon a structureless limitary membrane, from one to two-tenths of a millimetre in thickness, whose adherent surface becomes insensibly united with the laminated tissue of the mammary structures beneath. Ordinarily, there are two rows of epithelial cells in this lining membrane, the deepest composed of nucleated epithelium (or "recently-individualized cells") only one-hundredth of a millimetre in thickness, having an oval nucleus and no nucleolus. The nucleolus is, however, to be discovered in the nucleus of the epithelium of a certain number of subjects in a healthy condition. In almost all cases of tumors of the breast (the so-called cancerous neoplasms and others), the galactophorous canals which are not destroyed, exhibit a distinctly marked pavement epithelium, composed of fine cells from two to three times larger than those ordinarily described, more or less covered with fatty granulations, and exhibiting a distinct oval nucleolated nucleus, larger than in the normal condition.

2. *The Development of the Ovary.* De Sinety. (*Le Progres Medical*, June 19, 1875.)

After the third month of intra-uterine life, two species of cells can be discovered in the ovary. Some are quite small, others are larger. Those having a large nucleus are primordial ovules. They are disposed in an irregular order, and form minute masses, separated from the connective tissue by delicate layers. At this time—as at the moment of birth—the proper ovary is merely represented by that which eventually becomes the cortical substance.

The medullary substance is represented merely by em-

bryonic connective tissue, in the form of a small pedicle, and the vessels which are supplied to the ovary. At the fifth month, primordial follicles can already be discovered, made up of a layer of connective tissue and a circlet of small cells about the ovule. At the seventh month, the primordial follicles become more numerous, and the so-called "canals of Pflüger" appear, which are changed into follicles by a species of strangulation.

But about the ninth month, and during the few weeks succeeding birth, these canals anastomose, communicate with the epithelium of the ovarian surface, and contain the cells which characterize that epithelium. In the ovaries of the newly born, Graafian follicles are almost always visible to the naked eye, contrary to the generally received opinion on this point.

In the few days which succeed birth, follicles may often be discovered, as well developed as in the adult female, and constituting true cystic ovaries, in which are to be seen ovules whose origin is indubitable. This fact is probably intimately connected with certain mammary phenomena, noticeable at the same age. Observations upon the testicle, at this period, would undoubtedly prove interesting, as tending to throw light upon the puberal changes in both sexes.

In the cystic ovaries of infants, there are often cicatrices and follicles in different stages of atrophy—a circumstance which points to the possible resorption of follicles, in spite of the considerable development which they have attained. These cicatrices are important when considered with reference to the ulterior development of the ovary. During the process of their organization, the vascular and connective ovarian tissues penetrate deeply beneath; and thus the medullary substance is formed, which pushes more and more to the periphery the ovule-bearing cortical layer.

At the fifth year, the medullary and cortical portions are equally represented in the substance of the ovary, while in the adult the cortical portion does not represent

more than a quarter of the entire organ. At any period of life, the Graafian follicles which are most developed are always found in close proximity to the vascular portion. Perhaps the activity they display is due to the excess of nutriment which they thus receive.

3. *Ovariatomy Complicating Pregnancy.* HILLAS, THOS., M.R.C.S. (*Australian Med. Jour.*, Feb., 1875.)

June 13, a single woman, 24 years of age, was placed under chloroform, and an incision made midway between the umbilicus and pubis, in commencing ovariotomy. When a small wound was inflicted upon the peritoneum, a large jet of venous blood escaped, and was controlled by pressure. The operator was convinced that he had wounded a gravid uterus, and extended his incision to the umbilicus, when a large uterus rolled out upon the thighs, and the ovarian sac protruded. Eleven quarts of fluid were drawn off by tapping; there was no hæmorrhage, and but few adhesions. The sac contained a dozen small cysts. The short and thick pedicle was finally tied firmly with double whip-cord ligature. Afterward, the clamp was applied, the pedicle divided, and the ends of the double ligature tied over the clamp. The uterus was then incised to five inches, and the placenta, with a well-developed eight-months fœtus, extracted—the latter living. The uterine wound was closed with silver wire sutures, when the organ properly contracted. In six weeks the cure was complete. She has since menstruated regularly.

III. CUTANEOUS AND SYPHILITIC DISEASES.

1. *Visceral Syphilis.* COFFER. (*Le Prog. Medical*, June 19.)

A woman, 32 years of age, died at the Lariboisiere, having exhibited ulcers of tubercular syphilis upon the legs, osteo-periostitis of one malleolus, hæmatemesis, double hydrothorax, anasarca and hepatic enlargement.

At the autopsy, the two inferior lobes of the lungs were found affected with interstitial pneumonia, and, at one

point, there was considerable thickening of the connective tissue, with bronchial dilatation. The liver was voluminous and completely deformed by retraction of a largely-developed connective tissue. Its surface was deeply furrowed and covered by projections and broad fibrinous bands. On section, a white resisting fibrous mass was found, penetrating deeply into the hepatic tissue, having in its centre, small spherical, yellowish, indurated masses of a caseous appearance, each as large as a pea.

The microscope indicated that the newly developed connective tissue, not only surrounded the lobules but *penetrated into their interior*. Amyloid and fatty degeneration of the hepatic cells coexisted.

The case was regarded as one of visceral syphilis, with production of gummata in the lungs and liver. In the discussion upon this case, M. Després, of the Academy of Medicine, objected to the diagnosis, since the history of antecedent syphilis was wanting. It was not clear to him that the ulcerations upon the leg were syphilitic and with the naked eye he could detect merely the evidences of hepatic cirrhosis.

2. *Anal Eczema.* VÉRITÉ. (*La France Medicale*, June 26, and July 3.)

In this affection vesicles are rarely observed on account of the early resorption of their contents and their change into papules. When ruptured, the concretion of their contents produces delicate yellow or greyish scabs.

There is generally a red or rosy surface about the anal orifice, covered with lichenoid papules, having a scratched summit. According to the state of the sweat glands, more or less numerous and fine crusts are to be seen. The cutaneous folds in the neighborhood of the anus, may be œdematous, fissured, or exhibit ulcers extending as far as the derma. The perineum, scrotum, sacral region, vulva, and internal surface of the thighs, may be invaded.

The moisture is due to glandular secretion—not to eczematous discharge. Anal eczema is a dry eczema in

a humid locality. According to Bazin it is preceded by pruritus, and its excessive duration is due to the presence of sweat and fœcal matter.

For relief of the pruritus, patients will press aside the nates to get at the mucous surface; and not only rub and scratch it, but introduce two or three fingers into the rectum for several minutes, thus producing a titillation of the mucous surface which is followed by a slight serous discharge, succeeded by relief and sleep. This habit, difficult of renunciation, is dangerous in proportion as it is accompanied by pollution.

The consequent changes are analogous to those described in legal medicine as characteristic of passive pederasty: an infundibulum is formed—fissures and crests ensue; the semi-spherical concave is transformed into a plane which extends from one ischiatic projection to another—all of traumatic origin.

In women there is often vulvar pruritus, erythema of the labia majora and epithelial desquamation of the cervix. In both sexes there may be hæmorrhoidal complications. When the venous circulation is interrupted, there is infiltration and thickening, excessive pigmentation, even to the production of a bluish tint, irregular reproduction of the epidermis, and dermatitis, but no eczema proper, since the serosity escapes from the hyperemic corium.

The treatment should consist of alkalies internally, with topical application of ferric sulphate. Hardy recommends glycerine in which is dissolved a small quantity of the nitrate of mercury, when the pruritus is excessive. Other preparations recommended are corrosive sublimate, white precipitate, and solutions of potassium bromide.

The presence of worms is a frequent exciting cause of this disease, and calls for vermifuges, which, however, do not always relieve the eczema. The hypochondriasis and singular conceptions of some patients respecting this malady, are to be considered in the prognosis. Spontaneous cure occasionally occurs. Cancerous degeneration of the rectum rarely complicates these cases.

3. *The Nervous System and Skin Diseases.* BULKLEY. (*Archives of Electrol. and Neurol.*, May, 1875.)

There are two important causes of skin diseases: 1, Reflex nerve irritation; 2, Direct nerve irritation. The first is shown *inversely* in the occurrence of intestinal ulceration attending extensive cutaneous burns: *directly*, in hot, pale, perspiring, or flushing surfaces, where these changes are induced by ingesta and mental or nervous states, *e.g.*, pruritus and urticaria, also herpes gestationis, which is relieved by emptying the uterus. The second cause produces such lesions as those of zoster, leprosy and syphilis; and it is effective in patients troubled with gout, mal-assimilation, oxaluria, lithæmia, etc. To this class belong the rashes produced *some time after* ingestion of fruits, fish and the rash-producing medicaments.

Tar and buckwheat will produce acne; but so will an ulcerated uterus—the former, possibly, by distributing an irritating substance through the vascular system, the latter by reflection of irritation to the skin. If inflammation of spinal ganglia will produce the bullæ of zoster, excessive heat or cantharides externally, as well as the iodide of potassium internally, can produce similar effects. As to pemphigus, it may be syphilitic; may it not be in some instances a neurosis?

In lithæmia and icterus, the circulation of effete products produces pruritus—but so may flea-bites, the canaliculus of the acarus, the impregnated or diseased uterus, the ascaris in the rectum. Lepra anæsthesia is, more incontestibly than all others, a nervous disease of the skin, but its phenomona are often those of syphilis, and the lesions of the latter disease may be ultimately occasioned by alterations in the structure or function of nerves. Until more is known respecting the pathological changes in nerves and ganglia supplying diseased skin, we are hardly prepared to isolate a few cutaneous disorders, with more obvious nerve-phenomena, and call them neuroses.

IV. Surgery, Ophthalmology and Otology.

1. *Amputation through joints.*

In amputations through joints for accidents, Dr. Geo. Macleod (*Glasgow Med. Journal*, Oct., 1874,) obtained very good results by not interfering with the cartilage or bone, provided they are perfectly sound. He strongly advocates this practice, for these advantages: Exarticulation is quicker, easier, requires simpler instruments, and is attended with far less bleeding than amputation in the continuity. The risks of septicæmia and osteomyelitis are reduced to the lowest attainable point, as the bone remains intact; less shock, less retraction of the muscles, less danger of injury to the flaps and nerves by the action of the unsawn bone; the power of sustaining the pressure of an artificial limb is earlier acquired and the point of support is broader and better fitted than when the bone has been divided.—*Braithwaite's Retrospect*, July, 1875.

2. *Nævi successfully treated with Electrolysis.*

J. B. Knott (St. Mary's Hospital, London) thinks this by far the best treatment, and gives a report of forty cases to corroborate his claims. He attaches* one or more needles to the negative and one needle to the positive pole of a continuous battery; they are passed into the nævus, and a short while afterwards bubbles of gas will be seen passing by the side of the needles, which indicates that decomposition begins to take place. The tumor turns into a firm clot of a bluish white color, and in this clot fibrous degeneration takes place. The number of sittings varies with the size of the nævus.—*London Lancet*, March, 1875.

3. *Scarless Eradication of Nævi.*

This is accomplished by a slow subcutaneous strangulation and ecrasing; and Richard Barwell (Charing-Cross Hospital, London) does it this way: He encloses subcutaneously the base of the tumor in a wire loop, both

* According to the size of the tumor.

ends of which emerge at the same opening in the skin. An oval rubber plate, about three-quarters of an inch long and one-eighth of an inch thick, has two holes bored obliquely through its thickness, and on its upper surface two little studs near the holes. The wire ends made to cross are passed through the holes in the rubber disk and drawn upon until the nævus is rather tense; then each end is twisted round a stud. When, on the third or fourth day, the wire becomes loosened, it is drawn tight again, and this process is repeated until the wire comes away. Thus the subcutaneous part of the nævus is destroyed and the cutaneous parts at once will shrivel and lose their morbid color. This change is hastened by the aid of strong nitric acid which is brushed over the colored parts, left for a few seconds and then washed off with an alkaline solution. —*London Lancet*, July, 1875.

4. *Varicose Veins.*

John Marshall (University College Hospital, London) removed nine inches of a badly varicose internal saphenous vein below the knee. He marked the course of the tortuous vein with ink. Esmarch's elastic bandage was then applied, and an incision was made through the skin from the upper to the lower end of the ink mark. The vein thus exposed was ligated at both ends and entirely removed with forceps and scissors. The operation was performed under the carbolized spray, and Lister's antiseptic method of dressing strictly employed. Patient was discharged from the hospital seven weeks after the operation.—*Braithwaite's Retrospect*, July, 1875.

5. *Treatment of Erysipelas by Hypodermic Injections of Carbolic Acid.*

Eugene Bockel gives (*Gazette Médicale de Strassbourg*) an account of a series of cases treated by the above method which, as far as we know, first was suggested by Prof. Hueter. Using an ordinary hypodermic syringe he makes in the circumference of the erysipelatous sur-

face five to six injections, a syringefull each. These injections are repeated every morning and evening until the erysipelas is arrested in its progress. Sometimes this is accomplished by one series of injections; generally, however, it takes three to four days.—*Memorabilien*, June, 1875.

V. Practical Medicine and Pathology.

1. *Respiratory Percussion.*

Prof. DaCosta writes an article for the *Amer. Jour. of Med. Science* (July, 1875), under the above caption. Respiratory percussion is percussion with the patient holding his breath in full inspiration, or forced expiration. Under both of these conditions, the percussion note is found to differ from that elicited while the patient is breathing easily—that with full inspiration differing most, and this difference being most available in diagnosis. At the apices and infraclavicular region, a held inspiration makes the sound (in a healthy person) more resonant, fuller, and *the pitch higher;* and where the left side has normally a higher pitch, this disparity is preserved. This statement holds good, in a greater or less degree, with the whole chest, although below the region mentioned it makes the normal disparity between the two sides less apparent.

A full and forced expiration lessens the resonance, and lowers the pitch over the entire lung on both sides—this being more clearly made out at the upper part of the chest anteriorly.

The increased resonance with raised pitch, he suggests may be explained by the fact of the altered tension of the structures in respiratory percussion.

Prof. D. has found this method of great value in diagnosis.

In *bronchitis*, where the secretions are very abundant, the breath sounds are often impaired, and the percussion note as well. The chest, struck while in full inspiration, gives exactly a normal sound. If, however, the disease

has attacked the finer structures, and solidification is beginning, this manœuvre does not render the note fuller and more resonant. If the lung is merely collapsed, this method often gives an almost normal sound.

In acute lobar pneumonia, while nothing is learned during perfect hepatization, as resolution begins, the note heard on forced inspiration is more resonant and pulmonary.

Where, in a case of slight solidification, there is doubt whether it be caused by local congestion or tubercles, respiratory percussion solves the question—the case of local congestion becoming normally resonant, that of tubercles not.

In *pleurisy*, "over the seat of plastic exudation of ordinary extent," "forced inspiration diminishes the slight dulness that exists." Over the seat of marked effusion, no change is effected in the percussion note. In instances of pleuritic effusion, where there is blowing respiration at the back of the lung, and "the question arises whether or not pneumonia co-exists," respiratory percussion (inspiration) answers that question for us. Over the lower part of the chest, the note is unchanged; so is it if the dulness be due to pulmonic solidification from inflammation; but if it be due to condensation of lung tissue from compression, "decided clearness takes the place of dulness." In cases of tubercular deposit, at the early time when prolonged expiration just begins to be heard, and ordinary percussion detects little or no change, respiratory percussion makes the change more marked, and in this way: it develops a dulness previously not existing, or it makes the resonance of the damaged lung only slightly greater, and raises the pitch, "but does not bring out the changes strikingly, as in the healthy lung."

When ordinary percussion shows marked dulness, that on forced inspiration may show but little change, "except a slight rise in pitch, or the pulmonary resonance may be partly restored," and that in portions of

lung still expansible and capable of function. Should in a given case this method fail, at a later examination, to show this restoration of resonance, or reveal it less than at a former exploration, it would be proof that real solidification had progressed.

Finally, in pulmonary emphysema, Prof. D. believes his discovery is infallible as a diagnostic indication. "In marked emphysema, the excessively clear or vesiculo-tympanitic note is unchanged by percussion during the act of breathing; when the emphysema is not so great, it is slightly changed."

2. *The Natural History of Acute Dysentery.* (*Amer. Jour. Med. Science*, July, 1875.)

Prof. Austin Flint reports ten cases of this disease in which medical treatment was omitted, for the purpose of studying the natural history of the affection. The cases were all of the sporadic variety, were hospital patients, and were carefully selected with a view to illustrating the whole course of the affection, with a diagnosis that was positive, and without medication, except *placeboic*. None of the ten cases ended fatally. The duration from the beginning of diarrhœa to convalescence varied from six to twenty-one days. The mean duration was eleven and one-fifth days. The results prove, as Prof. F. believes, that sporadic dysentery, "in a temperate climate, tends intrinsically to recover," and "that this disease has a self-limited duration." In 1853, Prof. Flint analyzed forty-nine cases of dysentery under treatment. Among these were thirteen hospital cases. The mean duration, in these thirteen cases, was just thirteen days. The mean duration of all that recovered (thirty) of the forty-nine cases, including, of course, those in private practice, was nine and five-sixth days.

Of the ten cases here reported, none of the patients had previously had dysentery, and in all the disease finished its course without any important complication, and it was not followed in any case by the chronic affection.

3. *On the Pathology and Treatment of Cholera.*

Surgeon A. R. Hall contributes to *The Practitioner* of July, 1875, a paper on this subject, which includes a paper, or the substance of it, read by him before the Royal Medical and Chirurgical Society in 1873. Surgeon Hall was for eleven years stationed in Bengal and had extensive observation of cholera, beside being at one time himself the subject of it. He strongly believes the true state of the sympathetic nerve in cholera is one of irritation and not of paralysis; that the morbid influence exercises a stimulating action on the vaso-motor nerves. Resulting from this there is increased heart's action, contraction of arterial walls, and at first augmented blood-pressure. At first the pulse is hard; afterward it becomes small from the small amount of blood in the artery. The copious limpid urine early is related to high arterial pressure; the total suppression later is due to cramp-like spasm of the renal arterioles.

The irritability of the sympathetic, through vaso-motor action, produces spasm of the walls of all the arteries. "The heart contracts forcibly but cannot dilate normally" on account of spasm—the inhibitory action of the vagus is defective. Post mortem—the right heart is gorged with blood, due to spasms of pulmonary arterioles; the left heart is empty from the same cause. The systemic veins are gorged with blood from arterial spasm. He suggests the cramps may be due to the cutting off of the blood supply by the contracted arterioles. The packed and drawn-back condition of the intestines is due to contraction of all their muscular fibres. The urinary bladder is found contracted to the "size of a walnut." Abortions occur in pregnant women attacked by cholera, the fœtus being born alive, which proves the accident to be due to spasmodic contraction of muscular fibres and not to death of the child. Everything points to extensive contraction of involuntary muscle. Logically, then, the best treatment is such as will counteract this condition.

"The hypodermic injection of pure sedatives" seems to accomplish this purpose. Chloral hydrate, by this mode of administration, is the best treatment for cholera collapse. Twenty cases are reported treated by this method, with only two deaths. The cases all occurred in India. A solution of chloral was made of 10 grs. to 100 minims of water, and 10 to 40 minims injected at a time—the intervals between doses being from half an hour to several hours, as the conditions seemed to demand. Within half an hour after the first injection the patients—in the most extreme state of collapse—uniformly expressed themselves as feeling "more life."

4. *Incarceration of Jejunum and Intussusception.*

In the *Med. and Surg. Reporter*, July 10, 1875, Dr. A. R. Kilpatrick, of Texas, records a case of incarceration of jejunum and two cases of intussusception. The first was in a negro woman of 40, very fat, who had at her confinement, four months before, received some internal injury, as was thought, which was followed by fever and severe pain in the region of the umbilicus. She frequently thereafter felt pain in this region, and on exposure to dampness, and probable cold-catching, she had here violent pain and a considerable swelling. She soon had symptoms of peritonitis and enteritis; all cathartics failed to act, and stercoraceous vomiting came on. She died in four days. Post mortem, it was found that about four inches of jejunum had become incarcerated between two bridles made by adhesion of the omentum to the mural peritoneum, and about two inches apart. By absorption of fat, a pocket had been formed in the very thick abdominal wall for the incarcerated intestine, so that the latter approached to within a fourth of an inch of the cutaneous surface. This explained the prominent tumor near the surface, and suggested that probably the adhesions occurred at the time of confinement referred to.

The cases of intussusception, curiously, occurred in a mother and child at the same time. They were negroes, and, respectively, 36 and 13 years old. Both were attacked with fever, went to bed and were given rhubarb and "other things." Both purged violently, had pain with the purging, and finally vomiting came on, which continued in spite of all attempts to arrest it. Both died at the end of three or four days.

Post mortem, in the woman, the small intestines were found invaginated in seven different places, "the extent of each place varying from three to fourteen inches. Some had evidently been but recently ensnared, while others were gangrenous." In the boy, the small intestine was found invaginated in five places and to various lengths. There was much inflammatory exudation. The patients, it was afterwards learned, were unusually susceptible to the influence of rhubarb; a very small portion of the drug purging them severely.

[In view of the very similar predispositions these patients (the last two) must, from their consanguinity, have had; of the apparent full action of the purgative and of their great susceptibility to the effects of the particular drug; of the statement that the vomiting only came on "finally," meaning probably some time after the purgative, and remembering the belief now held by eminent physicians that invagination in healthy people is not unusual, always correcting itself, the query seems natural whether, in the cases here reported, the invaginations were not produced by the purgative, and prevented from self-adjustment by some inflammation the medicine may have lighted up.—EDS.]

VI. THERAPEUTICS.

1. *Therapeutics of Trismus Nascentium.*

The exhibition of remedies in any disease is almost wholly controlled by our knowledge of the pathological character of that disease. In no malady has there been

a greater amount of dispute about its pathology than in tetanus nascentium. In 1848, Dr. Marion Sims, then living in Montgomery, Ala., promulgated a theory of the pathology of trismus, which at that time produced a profound impression upon the profession in the United States and Europe. He contended that the cause of this morbid condition was "*centric*," owing to pressure on the medulla, by the occipital bone being depressed, in the process of parturition. This theory seemed so correct that it captivated many practitioners at first. Many a case was treated successfully immediately thereafter in accordance with this pathological idea, by what may be called, the *postural* treatment. But very many other cases were not successfully treated by this means, and thereby many were led to believe that Dr. Sims' ideas were not correct. This want of credence has so gained ground that, at the present day, a few books on the diseases of children mention this theory, under the head "Pathology of Trismus Nascentium," as one of the very many useless theories advanced to explain the cause of this malady. Dr. Sims' article is remembered by most of the senior members of the profession of to-day, but his treatment is seldom resorted to at present. The successful management of a case of tetanus infans, at present, is regarded as a most happy issue from an almost invariably—so considered—fatal disease. Warm baths, ice to the spine, hot water to the spine, blisters, mustard, narcotics, anæsthetics, amyl, and a host of other remedies, have been recommended and used with varying results; *so* varying, that to this day no one course of treatment may be said to be *successful*.

In the June number of the *American Journal of Medical Sciences*, is an article on the treatment of this distressing affection, from the pen of Philip A. Wilhite, of Anderson C. H., S. C., advocating Dr. Sims' pathology and treatment.

The writer resorts to the *postural* treatment. Babies, in trismus are almost invariably found lying on the back

—a position favoring the condition of depressed occipital bone. The usual concomitants are present in all degrees of intensity, from *mild trismus*—"*trismoid*" as Dr. Sims calls it—to the terribly destructive form, which kills the infant in one hour. The writer enumerates a number of cases in which he used postural treatment with charming success. The postural treatment consists in placing the infant on its side. In this position the pressure is removed from the brain *at once* in most cases, and amelioration is marvelous. The little patient usually sinks into a quiet slumber, and when awakened it takes the breast promptly and without any hesitancy, showing that the condition of locked jaw is removed. One case is here quoted from: A woman had triplets; two had died of trismus within a few hours of each other. The third was writhing in the *last* agonies, as the friends supposed, of this malady, when the doctor, casually passing the house, stepped in and was shocked to find two dead babies in the coffin, laid aside, awaiting the death of the third baby, so that all three could be interred together. "Notwithstanding the fact that the child seemed almost moribund, I stated to the parents and friends that I wished to try the experiment of the lateral decubitus. They at first objected to my doing anything at all, saying the child must die as the others had, and that it would soon be out of its misery. Mrs. R.—the mother—said it had not been able to swallow for the last fifteen hours, and what was the use of worrying a dying child? However, I carried my point and had the child laid lengthwise on a soft pillow on its side, and turned from side to side every fifteen minutes. From the moment it was laid on the side, a decided change was seen in all its symptoms, and in less than an hour and a half from the time the lateral decubitus was instituted, all spasm ceased, the jaws were unlocked and the child sucked freely and swallowed well. I gave it no medicine, but simply directed that lateral position should be kept up for some time, being careful to change it from

side to side every hour or so. * * * * It recovered rapidly and I saw it no more till it was eight months old; and there was not a finer child in the country, of its age."

Examination of the two dead babies revealed "the occiput, in each, depressed to an unusual degree."

The pathology of this malady suggests the treatment, viz., removal of pressure by the occiput. To accomplish this, placing the infant on one side and then on the other, alternately, changing its position every fifteen or thirty minutes, will generally suffice, as will be evidenced by a diminution or a cessation of the convulsions. When this does not relieve the patient, surgical interference should be promptly resorted to, to elevate the bone.

Translations.

HERMAPHRODISM,

FROM A MEDICO-LEGAL POINT OF VIEW.

Translated from the French of Basile Poppesco,

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INTRODUCTION.

The vices of conformation of the genital organs had from all time attracted the notice of observers; but the absence of positive notions of the normal anatomy and pathology, to the middle of the eighteenth century, had permitted the ranging of these facts, which were much more in the domain of the marvellous and unknown, in a special category, rather than in the true domain of science.

It was only at the end of the last century, and the beginning of this, that numerous works appeared which partly elucidated the subject and enabled us to penetrate the

infinite modifications of its mechanism. However, it was necessary to wait for the recent discoveries of modern anatomy, and the labors in embryology, in order to affirm that the question of hermaphrodism was nearly solved.

The medico-legal questions, which are attached to this arrest of development, can be treated now with an indisputable competence, before the tribunals, because the medical jurist has as a base for his argumentation, and foundation for his declarations, the entire group of phenomena amassed from embryology and experimentation.

Prof. Tardieu, in his lectures, and in his works, is one of those who have contributed most to elucidate this subject, and to show all its practical bearings from a medico-legal point of view. We have thought that, in the present state of science, a summary of the principal questions which belong to hermaphrodism would not be deprived of all interest; but in penetrating the difficulty of the subject, we feel constrained to beseech of our judges all the kindness possible.

HISTORY. VARIETIES, CLINICAL AND SYMPTOMATIC.

The origin of this word goes back to the remotest antiquity and seems to be attached to the fable of Hermaphrodite, son of Mercury (*Ερμῆς*) and of Venus (*Ἀφροδίτη*), who remaining insensible to the charms of the nymph Salmacis, she obtained from the gods the decree that her body might be united to his.

Later, the possibility that an individual could at once possess the attributes of both sexes was fully admitted, and already the Fathers of the church, Tertullien among others, are seen violently opposed to them; and if the Athenians throw into the sea the reputed hermaphrodites, the Romans are seen not to fail in employing the same kind of execution by precipitating them into the Tiber.

In the middle age, ignorance and passion still follow

these unhappy individuals, disinherited from nature; and we will be able to recall, in this connection, numerous decrees of the provincial parliaments.

In the rigorous acceptation of the word, one will understand an hermaphrodite to be an individual who is capable of reproducing one of his species without the concurrence of another. This will be, in the animal kingdom, an exceptional peculiarity which will enable us to establish a complete similarity with what commonly passes in the greatest number of vegetable families; one class only in the vegetable kingdom, the *Diœcia*, constituting an exception.

In the animal kingdom, as one descends the scale there appear animal hermaphrodites; thus, for example, among the mollusks, and the zoöphytes; but here still a distinction should be established; although possessing male and female organs, among some species, the concha univalvata, for example, the animal requires, in order to be fecundated, the intervention of another individual of his kind; in this case, the animal is at once fecundating and being fecundated.

On the contrary, take the concha bivalvata, and one will admire at once with what care and harmony the laws of nature have been established, in order that the fecundation of these creatures, their unceasing repetition, may not be interrupted; for here the animal has a fixed domicile, permanent; it is impossible for him to leave his rock; in the act of fecundation he has no need of the help of another individual of his kind; he is at once fecundating and being fecundated.

I will not extend farther these considerations of comparative anatomy; I only wish to show the insensible gradation that one meets with in the attentive observation of nature; at the same time to show what an immense distance separates the bisexuality of the inferior animals from this that has always been termed in man *hermaphrodism* or *androgynia*.

As M. Tardieu has remarked,* "the name of hermaphrodite, under which one usually designates these individuals, is the worst that can be chosen, and gives the most false idea of their conformation." One may say that it is not important which may be the predominant sex, the one or the other; often, even, both are too incompletely developed to be able to fill their *rôle;* the association has never, however, been perfect; it is scarcely so in two or three recent observations where the simultaneous presence of the essential and accessory organs of the male and female sex have been established; I will make, however, an exception for an observation reported by M. Doumic, † due to M. le Dr. Heppner, of St. Petersburg, also for two observations which are found at the end of this thesis; one taken from the journal *Lo Sperimentale* of Florence (1874), the other from the *Lyon Médical* same year.

Haller, ‡ relying on the considerations of structure, had already said that the union of the two sexes was absolutely irreconcilable with the disposition of the pelvis; and later, Meckel, and Serves especially, really corroborate this opinion in taking for the base of their refutation the law, called by the latter, the law of balancing of the organs.

In the last century, we see already the authors divided into two parties, regarding the sex of the presumed hermaphrodites: one, with Osiander, thought that they are nearly all males, while Parsons§ and Hill, on the contrary, supposed them nearly all females.

To-day, the almost unanimous opinion is, that in the great majority of cases, that are wrongly called hermaphrodites, they are individuals of the male sex in

* Question médico-légale de l'indentité dans ses rapports avec les vices de conformation des organes sexuels, 1874.

† Doumic, Gazette Med., Paris, 1872.

‡ Comm. Soc. R. Gott., t. 1, pl. 1.

§ Parsons' Medical and Critical Inquiry into the Nature of Hermaphrodites. London, 1741.

whom the testicles have descended and are atrophied ; or rather, on the contrary, remain included within the cavity of the abdomen ; in whom a penis is recognized, having an incomplete development ; a urethra more or less opened at the base of the penis ; finally, a failure to unite of the two lateral parts which had as their special destination, on account of their approaching each other and their intimate adherence, the forming of the superficial coverings of the pouches, the scrotum, strictly speaking. In a word, the arrest of development which constitutes, strictly, hermaphrodism, consists essentially in two special alterations of the external and internal genital organs, which have been designated under the name of hypospadias and cryptorchidia ; as M. Tardieu does not hesitate to say, "that one will not be in doubt that these are malformed men, but men." The same opinion is equally supported by M. Legrand du Saulle in his Treatise of Legal Medicine (1874).

Nevertheless, though the arrest of development in the male sex constitutes the greatest part of the facts in science under the name of hermaphrodism, we will describe, after the authors, the three most important varieties ; we believe this division necessary, not only because we will be enabled better to group the facts, but because it accords with the observation and with the minute description given by Is. Geoffroy Saint Hiliare, Dutrochet and Marc.*

I. APPARENT HERMAPHRODISM IN THE MALE SEX.

Sometimes the arrest of development involves only the generative organs, sometimes there are phenomena worthy of being spoken of which belong to the general configuration of the individual. We will first describe the former, or phenomena localized in the generative sphere, properly speaking.

The penis offers, usually, an incomplete development ;

* Dict. en 30 ; Art. Hermaphrodisme.

its length is more or less reduced; it is formed by the union, the fusion of the two corpora cavernosa; the glans is often malformed; moreover, if it exists it remains uncovered, in consequence of the absence, or the want in length, of the prepuce. One will readily admit that if the volume of this organ is very slight, not exceeding in length two-thirds of an inch or an inch, it may sometimes be difficult to distinguish it from the clitoris, if besides there are added to this other vices of conformation. This penis is capable of an erection, and the intromission of this organ will depend directly upon the length which it can acquire at the moment of venereal spasm.

Below this penis, one recognizes a deformity also very important; we allude to that arrest of development which has received the name of hypospadias: there are a number of varieties of this; sometimes the urethra is opened at a point very nearly approached to the terminal extremity of the penis, and then it is not a true hermaphrodism; sometimes, on the contrary, it is only towards the middle of the penis that a canal is observed which opens directly into the bladder; finally, the most frequent variety is that in which an opening is found quite at the base of the penis, an orifice which is just beneath the pubis, in an infundibuliform cavity which we will describe presently.

In this case, one observes also the co-existence of other arrests of development. We know that the scrotum is the result of the intimate union of the two lateral folds which unite in the median line and form a well marked raphe, which corresponds superiorly to what is known under the name of the septum of the dartos. When this union of these lateral folds does not take place, and these two external processes from the blastoderm remain separated, there will result an absence of the scrotum, and each side will have the gross appearance of the labium majorum.

These two separated parts leave on the median line a

fissure, which extends from before backwards; sometimes this is very superficial, sometimes, on the contrary, it is a true hollow cavity, more or less funnel shaped. This cavity does not extend very far forward, the finger is soon arrested, and at the anterior and superior part one can recognize the abnormal opening of the urethra. If one wishes to carry the examination farther, the catheter may be introduced nearly into the bladder and the finger into this abnormal cavity, when the presence of the prostate, and even the vesiculæ seminales, will be established; most frequently, however, it will be nearly impossible to arrive at such precision in the diagnosis, the cavity being too shallow and the rectal touch giving but very uncertain information.

But a fact which leads still more to the confounding of the external conformation of these subjects with the special conformation of the female sex, is the absence of the testicles, or at least their permanent inclusion within the abdominal cavity. One will understand how necessary it is in these cases to practice a minute palpation; because the absence or presence of these organs goes to indicate more exactly, for the medical jurist, and for the expert, the course which he will follow in the decision which is necessary for the proper ranking of this individual in the civil state; or the motives which he can allege in favor of a rupture of the marriage.

Not only the lateral pouches which represent the scrotum ought to be examined, but the inguinal ring and the entire inguinal tract should be explored; because it is not exceptional to find, in those cases of presumed hermaphrodites, the testicles retained within the inguinal canal, from which their descent does not take place till the epoch of puberty. Finally, one should recall the interesting case of Alexina B——, reported by M. le Prof. Tardieu, in which the testicles were retained within the inguinal canal, and were the seat of a most violent congestion at the time of puberty, which was, for the physician, the first indication of a vice in conformation which was presented by this presumed young girl.

Moreover, in the variety of hermaphrodism with which we are occupied at present, the variety most frequently observed, one can say that the principal characteristics are comprised in the following observations: diminution in the size of the penis; hypospadias, generally well marked; absence of union of the two lateral parts which normally go to form the scrotum; and finally, cryptorchidie.

To these local signs of hermaphrodism, may be added a series of phenomena which belong to the general conformation of the individual; and often, too, not only are the external physical characters similar to the female exterior, but the real character, the habits, the passions, conform to the female character rather than to the male.

The stature is generally medium; the rotundity of body (l'embonpoint) is considerable; the skin is smooth and fine, deprived of hair upon the face as well as upon the trunk; the muscular system is slightly developed, or rather it is marked by a full adipose development; the muscular projections and the bony ridges are effaced; the extremities, in a word, like the face, have the appearance of the feminine type. The voice even has a high pitch, and is feeble. The pelvis is sufficiently developed, and the ilia project outwards; there is even an abnormal turning outwards of the ischio-pubic branches. The breasts are of considerable size. These individuals prefer sedentary occupations; they like garments of brilliant colors; are excessively coquettish and adore perfumes; an oriental extravagance reigns in their apartments (obs. iv); they are also passionately fond of needle-work, etc.; in a word, everything in the outward character contributes in keeping up the error as to the real sex of these individuals.

At the end of this essay, several observations can be seen which relate clearly to this form of hermaphrodism, therefore I will not stop to detail those examples, which are classical to-day, of Marie Marguerite, of Dreux, related by Worbes, which is found in the journal of Hufe-

land. To this same variety belongs equally the case of Justine, A. J., which was decided by the civil tribunal of Alais (1869), then by the courts of Montpelier (1872), and of Nimes, after the first decision had been reversed by the Court of Cassation (1869); in the last place it was finally brought back before the civil tribunal of Alais (1873): the court then declared the individual "absolutely nothing, a nonentity, and annulled the marriage inscribed upon the registers of the civil state, and, consequently, the ante-nuptial pledge, which governed the agreements of the parties; and ordered that mention of the present decision be made on the margin of the act of celebration of the aforesaid marriage, thus annulled by the officer of the civil state of the said commonwealth of Alais."

II. APPARENT HERMAPHRODISM IN THE FEMALE SEX.

It is much more rare, as we have already said, to encounter in the female a disposition of the sexual organs such as could lead one in error as to their true sex, and consequently, such as would lead one to suppose that he had to do with an individual of the male sex. Nevertheless, several such cases exist in science, and these are, in summary, the peculiarities presented to the observer. The vagina is reduced to a simple funnel-shaped hollow cavity; it is imperforated or narrowed by bridles, which are so numerous that it is impossible to find the neck of the uterus by the touch; one cannot reach this organ than by a methodical palpation and by the simultaneous employment of the catheter and the rectal touch. The clitoris may be as voluminous as in the case of the hypospadias which we have related above; finally, singularly coincident, the meatus urinarius, in consequence of an unusual elongation of the urethra, may be found just beneath the clitoris, which fact increases the chance of error, when only a simple superficial examination is made. The labia majora, in these cases, are but slightly pronounced; often the nymphæ are scarcely marked, in consequence of an

arrest of development in all the parts. Finally, a last fact, which is prominent in some instances, and which still more singularly obscures the diagnosis, is the presence of the ovaries in the substance of the labia majora, in consequence of an inguinal hernia. It is then that only a most carefully conducted examination will enable us to differentiate the testicles from the ovaries (*Estopie ovarienne.* Loumaigne, thèse inaugurale 1869). But, we repeat it, this variety is rare—really exceptional. In the great majority of the cases, it will be easy enough to establish this variety of hermaphrodism, which consists really and simply in an arrest of development, in a default of communication between the external and internal genital parts. It is true that, in these cases, *the ovaries, the sign par excellence of the female sex,* exist—sometimes displaced, sometimes in their normal situation—and indicate their presence not by the menses, which cannot appear, but by various periodical troubles, symptoms of congestion, increased secretions, hæmorrhages, etc., which resemble really the regular menstrual evolution.

Add to these local signs the entire group of external physical characteristics, and intellectual manifestations, which are really more conformed to the male sex than to the female, and it will be seen that it is with reason that the writers of the last century, and the beginning of this, have insisted with so much detail upon these analogous facts. The general complexion of these persons is much more masculine; the stature is increased, the body is lank, the limbs powerful; the muscular projections and the bony ridges are well pronounced; the hair is short, the hair follicles are developed and the surface of the body is covered with hair; the breasts are slightly developed; the depth of the pelvis is increased, and the menstruation is more or less completely wanting. Add to all this, the aptitude for a series of manly tastes, a preference for the occupations which require force and vigor, a deep voice, and you will have under your eyes, in a few words,

those creatures which the Romans designated, with just reason, under the name of *virago*. One feature alone which led to error in several of the cases cited was, that the clitoris was so long that it was capable of copulation; but, as M. Tardieu has said,* "this fact alone does not change the conditions upon which are founded the distinction of the sexes."

Marie-Madeleine Lefort, said Béclard,† seemed to belong to the male sex, if one considered the size of the trunk and the extremities, the shoulders and the pelvis, the size of the larynx, the tone of the voice, the development of the beard, and the urethra prolonged beyond the symphysis pubis. But she possessed at the same time the essential and constitutive organs of woman, uterus and vagina. Below, and posteriorly to the peniform clitoris, was a fissure or vulva bordered by two narrow, short labia, which were united by a thick and dense membrane. At the root of the clitoris, this membrane was perforated with a round opening which gave passage to the urine and the menstrual discharge, and would have been sufficient, without doubt, to have made the vagina accessible if an incision had been made, between these two labia, from the base of the clitoris nearly to the posterior commissure. Since this instance, analogous cases have been reported by MM. Bouillaud and Manec, Briquet, Richard, Gallard, Lefort.‡

Marc, in his article of the Dict. en 30, reports that a uterus fallen out of the vagina has sometimes led the inattentive and ignorant surgeons in error, who believed it to be a veritable penis. Such was the mistake of the surgeons and the chief magistrates of Toulouse respecting a woman whom they declared an hermaphrodite, in 1693, and ordered her to wear the clothing of males.

* Tardieu, loc. cit.

† Bulletin de la Société de la Faculté de Médicine, 1815.

‡ Lefort, Thèse d'Agrégation, 1863. Des vices de Conformation de l'utérus et du Vagin.

This woman coming to Paris, was subjected to an examination by able men, Saviard alone recognizing the error, reduced the prolapsed uterus, and gave to this woman her true sex.

Everard Home (Philos. Trans., 1799,) cites a similar case.

It seems to me sufficient to prevent falling into a like error, to know that it may be committed.

(To be continued.)

VARIATIONS IN THE PULSE OF DIFFERENT ARTERIES.

By Dr. MORIZ BENEDICT, of Vienna.

(Translated from the "Wiener Med. Presse," No. 18, May 2, 1875, by Dr. H. Gradle.)

One of the secrets of the organic world is the differentiation of homogeneous cells, whence result, in the course of development, their different functions. But it is likewise astonishing, how the well-defined specific nature of the different elementary parts can be maintained permanently, bathed as they all are in a nutrient fluid uniform in composition. Of primary importance for this purpose is the difference in the nature of the filtering walls of the vessels, though we are not acquainted with the details of that arrangement.

A second factor, resulting in different exosmosis in different tissues under the same central pressure, is the specific mode of distribution of the blood vessels and lymphatics. Amongst anatomists much engaged with injections, it is a test of ability to recognize the source of such preparations, especially microscopical specimens. This relation is the most interesting in the brain, where there is an aggregation of nerve cells, almost identical chemically and histologically, and still endowed with such vastly different functions. Facts in toxicology, rather than micro-chemistry, demonstrate the great mul-

tiplicity in the chemical affinity of elements scarcely distinguishable by their anatomical characters.

Ecker has learned from his injected specimen that every part of the brain can be recognized by the vascular disposition peculiar to it. I will also call to mind at this place the peculiar relation of the large peripheral lymph-spaces in the arachnoid cavity of the brain, as well as the subadventitial lymph-spaces. During life there exists in the brain a normal accumulation of lymph (hyperlymphosis), the distension of the arachnoid cavity with fluid being dependent on the blood pressure. At the moment of death, the reimbibition into the tissues commences—a fact formerly known, upon which special stress has been laid lately by Schiff and Hitzig. These entire lymph-spaces, and in particular the subadventitial spaces, are adapted manifestly to the peculiar conditions in the brain, which, more than any other organ, may be exposed for weeks and even months to an unusual exertion, an unusual tissue-change, which without special protective arrangement would soon lead to alteration and destruction of the chemical individuality of the different elements. The unusual reservoirs and means of drainage for the nutrient fluid furnished in excess, and the excreta of the local process of nutrition, are, however, adapted to serve as protective arrangements; at the same time they are best calculated to prevent concussion of the brain.

Another peculiarity of the brain is the fact, that not only corresponding surfaces of both hemispheres are, as a rule, excited simultaneously, but that in the exercise of psychical functions elementary parts of the hemispheres widely distant are brought into synchronous excitation by irradiation. This relation is dependent on an intimate connection of the circulation; accordingly, we find not only communications between all arteries in the circle of Willis, but also, as Ecker, and, more lately, Heubner, have pointed out, do we see inosculations between the districts of the individual vessels in the pia

mater, and hence, likewise, between the branches dipping into the cerebral convolutions.

But even these hydrostatic arrangements, as the result of which the central pressure is modified in the different tissues, would not suffice to maintain the chemical individuality of the tissues, were it not for another provision, capable of altering the velocity and tension of the blood. In artificial or functional irritation, as well as in irritation owing to contiguity of distant tissues, there must be some provision, by means of which the hæmadynamic conditions can be regulated according to the momentary requirements. The altered chemical condition of the irritated elements is one cause of an altered attraction; another factor is to be sought in the altered hæmadynamic mechanism.

The local regulators of the acceleration or retardation of the blood velocity, or alteration of the blood pressure, are the vaso motor nerves. Through their influence the musculature of the vessels, which is but too imperfectly understood, attains the importance of a local heart. This local heart is not capable—except in the hepatic artery—of augmenting by its activity the number of pulse-beats, nor can it probably reduce it, but it is able to bring about peculiar conditions of pressure and velocity, so that in the variety of association of activity of the separate nerves in a certain vascular district, we have not only an essential factor for the specific nutrition of the tissues, but also for an increase of nutrition during the time of exalted activity, and *vice versa.* To the same arrangement the trophic processes can be referred, and the time is probably not far distant at which we can trace a great part of the pathological processes to such disturbances of the local hearts, which take their origin in distant parts of the nervous system.

We know, at present, from the researches of Ludwig and Cyon, that an irritation starting in the heart can cause reflex dilatation of the vessels. On the other hand, we can hardly doubt but that the increase of central mo-

tive power on the occurrence of contraction of peripheral vessels, is also of reflex origin. Besides, we see in inflammatory fever, how intense local disturbances of circulation give rise to general disturbances of the vaso motor nerves; we see also, in the initial rigor, how the compensation of intense local dilatation of vessels is subject to physiological and *not* to hydrostatic laws. In fact, we can say, that the different local hearts are connected most intimately with each other and with the central heart by means of nervous bonds, the relations of which have been but imperfectly demonstrated by the means of anatomy and physiology.

It would be of the greatest importance to study in general the physiology of the terminal arteries, those branches regulating the nutrition of the organs; this, however, can be but imperfectly accomplished. But fortunately we are able to observe the distinct disturbances occurring in a terminal artery, *as a rebound, an echo, so to speak, in the larger arteries*, though this idea and its resulting observations have not as yet been carried out by physicians. Even in physiology we still meet with the methodic error of referring changes of tension caused by experimental stimulation or paralysis of nerves, which are observed in one region—to the entire vascular system. But in fact we can observe such local alterations in certain vascular districts, on the large vessels the pulse of which is perceptible to the finger, and some noticeable observations have induced me for some years to feel the pulse simultaneously in different arteries.

The first two observations are the following:

A lady of about 40 years of age came under my observation, with all the symptoms of an obstructed circulation in the arm. The hand was pale, cold, insensible, and at the same time painful. No pulse could be felt anywhere along the arm. The pulse of the subclavian artery was enormously full, so that at first sight the existence of an aneurism appeared probable. The history showed that this was not a congenital state, but only of

eight days duration. Embolism and thrombosis could be excluded on account of the relative want of importance of the symptoms, and the idea occurred to me, that there existed a vascular spasm, not sufficiently intense to stop the circulation, but sufficient to render the pulse imperceptible. The attempt to remove this state of the vaso motor nerves by belladonna and galvanization did not succeed; but after a few days the normal condition returned.

The subject of another observation was a young girl, complaining of headache and palpitation of the heart. On examination, I noticed that both carotid and both radial arteries showed an unusual, though equally full, pulse. Besides, all symptoms of an insufficiency of the bicuspid valve were present. The unusual fullness and hardness of the pulse in the region of the ascending aorta gave me the idea of examining the pulse in the region of the descending aorta, where I found that no pulse could at all be perceived. Recollecting my former case, the thought occurred to me that there might be in this case also a spasm of the arteries in the latter region; but a congenital obliteration in the descending part of the arch of the aorta was first to be excluded. All appearances of a collateral circulation were wanting. I insisted on a consultation with a celebrated authority on diseases of the circulatory organs. Shortly afterwards the pulse reappeared in the lower extremities, and the abnormal characters of the carotid and radial pulse disappeared, and even the apparent cardiac lesion was said to have vanished subsequently.

I made some other very striking observations on two other patients. One of them suffered for a long time from clonic spasm, consisting of flexion of the carpus, which involved occasionally also the elbow-joint, persisting for hours, and accompanied by diminished sensibility of the fingers; its duration was shortened by warmth. The attacks occurred repeatedly during the day, and would sometimes last during a whole day. After severe attacks a

sense of constriction was felt in the chest, the radial pulse was not perceptible on the right side, while on the left side it was very small and irregular. One day, when the patient had just passed out of an attack, an attempt was made to enlarge the pulse by nitrite of amyl.* In this I succeeded very promptly, and after the experiment had been repeated twice, both on palpation and auscultation a momentary arrest of the heart was observed, while a deep bronchial respiration was heard. After a few seconds the heart sounds became audible again, and after the lapse of ten minutes the cardiac impulse was very powerful. The radial pulse remained full for some time. (Still the attack continued for some hours, notwithstanding the experiment.) This experiment shows also what extent the vascular spasm can attain. A permanent enlargement of the pulse was only obtained by galvanization of the sympathetic; whether, however, a cure was effected, I could not learn.

A second instance was the case of an epileptic man, whose attack was always preceded by a premonitory vaso motor symptom in the shape of circumscribed redness of the left cheek.† I saw the man one day at this period, and an examination showed the pulse filiform in the carotid as well as the subclavian and radial arteries and the lower extremities. By strong galvanization of the sympathetic I succeeded in rendering the pulse fuller, and the attack was prevented.

No less striking are the appearances in *tic douloureux*, where either the pulse of the carotid artery is full during the attack or on the hand very small. That the carotid artery can be dilated like an aneurism by the expansion of the places of origin of the smaller arteries, I have witnessed both in tic douloureux (vide case 87 of the "Nervenpathologie") and hydrophobia. In the former

* Riegel has lately used this remedy to dilate the arteries in lead poisoning.

† I will here insist that an epileptic attack rarely occurs without vaso motor or psychical prodromata.

case the abnormal distension of the vessel disappeared with the affection, and in the latter case no anomaly was found in the cadaver.

Spasms of vessels or pareses in limited vascular districts are also a common symptom in hysteria.

I attach special importance to this method in diseases of the brain. Under normal circumstances a difference is often noted between the pulse of both carotids, and, as a rule, the radial pulse corresponding to the large carotid artery is in that case the smaller. In hemiplegia and cerebral disease, I have repeatedly observed, that on one side (in the former case the paralyzed side) both the pulse of the common carotid and of the arteries of the arm was small and filiform. Such a condition denotes a profound disturbance of circulation by dilatation in numerous vascular districts, and my idea to prognosticate from this condition the danger of apoplexy has in several instances been unhappily confirmed.

In Basedow's disease the pulse is usually large in both carotids and correspondingly small in both radial arteries. I am not at present enabled to perfect these observations on a larger scale; I can, therefore, merely recommend them most urgently to my colleagues. We can expect from this method not only the discovery of special facts, but even a further illumination of the causes of trophic processes and an increased accuracy of prognosis. Especially in local inflammations in the extremities can the observation of the local arterial tension be of interest.

FLEETWOOD CHURCHILL, author of "Churchill's Obstetrics," and kindred works, has lately retired from practice. His practice for many years of late has been confined wholly to obstetric and gynecologic consultations.

Book Reviews.

[NOTE. — All works reviewed in the pages of the CHICAGO MEDICAL JOURNAL AND EXAMINER may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

1. PLAIN DIRECTIONS FOR ACCIDENTS, EMERGENCIES, AND POISONS. Keep this where you can readily find it. By a Fellow of the College of Physicians of Philadelphia, and Physician to several of the Charitable Institutions of the same city. Fiftieth thousand. All rights reserved by the Author. Distributed to its Policy-Holders by the Mutual Life Insurance Company of New York. F. S. Winston, President.

2. PLAIN DIRECTIONS FOR THE CARE OF THE SICK, AND RECIPES FOR SICK PEOPLE. Keep this where you can readily find it. By a Fellow of the College of Physicians of Philadelphia, and Physician to several of the Charitable Institutions of the same city. Eightieth thousand. All rights reserved by the Author. Distributed to its Policy-Holders by the Mutual Life Insurance Company of New York. F. S. Winston, President.

These two little volumes are unique. Their gaily-illuminated covers suggest the dime novel and the ladies' magazine, while their contents treat of the accident in the street and the mishap in the family.

We are of those who advocate the widest possible dissemination of useful knowledge among the masses. But we are also of opinion that it is possible to give a little information, in certain cases, which may prove to be a dangerous thing. There are physicians who, in the sick room, discourse in such a manner as to produce the impression that they are the sole repositories of an incommunicable science. There are others yet who, on every possible occasion, deliver a species of medical lecture to all who chance to surround the sick bed. They who are truly wise do neither. The volumes before us, while they contain many excellent suggestions which a skilful

practitioner would endorse, yet share the error of the second class of men.

On page 48 of the first volume, for example, two unprofessional fingers are represented in the act of strapping an extensive incised wound of the thigh—such a wound as the veriest tyro in surgery would not attempt to close without the aid of sutures. If the artist intended to represent a temporary dressing merely, the procedure suggested is laughably inadequate. The strips of plaster are cut so short as to be entirely unfit for the purpose, and are as few and far between as the individuals who succeed in carrying the policy of an insurance company during the term of their natural lives. To speak more plainly, less than half of those who are insured are said to remain so; and there is a great deal less than half enough plaster on the aforesaid wound.

Still, a very little of the latter might go a long way, if the author can be believed; for he asserts, on the very next page, that "the edges of an incised wound of some length were successfully held together by a *postage stamp*, divided lengthwise into four strips"!

Here are also directions for removing foreign bodies from punctured wounds, by *making incisions* along the course of the wound; directions for *splitting the nail* with a penknife; directions regarding the treatment of *sloughing wounds*, with a description of the mode of repair by granulation. Here are also indications for using such remedies as aqua ammoniæ, tincture of opium, oil of turpentine, ipecac in powder and syrup, Glauber's salt, and compound cathartic pills.

We submit that if an author is disposed to write a book on Minor Surgery, it were well to indicate his purpose in its title. Show us one hundred policy-holders of the Mutual Life Insurance Company, who treat themselves for extensive incisions along the thigh, punctured wounds requiring interference, wounds that slough and wounds that granulate—who move their bowels with Glauber's salt, and empty their stomachs with sulphate of zinc; and we will point out a certain proportion of the

entire number whose widows are likely to realize from the investments made for them in the Company!

These volumes of themselves would scarcely deserve attention, were it not for the fact that they are circulated by a wealthy corporation, commanding a capital of seventy-two millions of dollars, and having ninety thousand policy-holders. One of these monographs has reached an edition of eighty thousand copies—truly an enormous edition for any work!

The author says there is scarcely any excuse for the "effrontery" of ringing up an apothecary, of a cold night, to supply ten cents worth of paregoric. Will the Mutual Life Insurance Company of New York excuse the "effrontery" of our asking why, when it was concluded to publish such volumes for the benefit of their policy-holders, they felt constrained to step outside of the medical profession of their own city, in order to find an author in Philadelphia?

LESSONS ON PRESCRIPTIONS AND THE ART OF PRESCRIBING. By *W. Handel Griffiths, Ph.D., L.R.C.P.E.* London: Macmillan & Co. 1875. 12mo., pp. 150. Price, $1.25.

Its title indicates its design, which it well fulfills. By careful attention to its instructions, a novice can learn to write a prescription accurately, in a very short time. One point the author fails to emphasize, which should be insisted on with something akin to energy, viz., an avoidance of abbreviations in writing prescriptions. Chapter 6 is on "Incompatibility," and it is worth the price of the book. If it were in the reviewer's power, every graduate of medicine in this country would commit this chapter to memory. Nearly the first half of the book—65 pages—is didactic, and the remainder consists of "Examples and Exercises." The subject of prescription writing is so thoroughly written up, in works on Materia Medica, that nothing new remains to be culled by writers on this subject alone. This work embraces everything of profit to the senior student and practitioner, and will repay studying. E.

BOOKS RECEIVED.

BASTIAN.—Paralysis from Brain Diseases, in its common forms. Illustrations. D. Appleton & Co. $1.75.

DARWIN.—Insectivorous Plants. With illustrations. D. Appleton & Co. $2.00.

PAGET.—Clinical Lectures and Essays. D. Appleton & Co. $5.00.

PAMPHLETS RECEIVED.

ANALYSIS OF ONE THOUSAND CASES OF SKIN DISEASE, with Cases and Remarks on Treatment. By *L. Duncan Bulkley, A.M., M.D.*, Physician to the Skin Department, Demilt Dispensary, N. Y. Reprinted from The American Practitioner, May, 1875. Louisville: J. P. Marten & Co.

AMERICAN CLINICAL LECTURES, Vol. 1, No. vii; Capillary Bronchitis of Adults. By *Calvin Ellis, M.D.*, Prof. of Clinical Medicine, Harvard University. New York: G. P. Putnam & Sons.

ANNUAL ADDRESS before the California State Medical Society. By *A. B. Nixon, M.D.* Sacramento: Printed by H. S. Crocker & Co.

ANNUAL ANNOUNCEMENTS for 1875–6, from following Medical Schools: Atlanta Medical College; Woman's Hospital Medical College, of Chicago; Savannah Medical College; Department of Medicine and Surgery, University of Nashville; Second Annual Announcement of the Hospital College of Medicine, Louisville, Ky., Medical Department of Central University; National Medical College of The Columbian University; University of Michigan, Department of Medicine and Surgery.

JOURNALS RECEIVED.

The American Journal of the Medical Sciences—1875. August.
The American Journal of Pharmacy—1875. August.
The American Medical Weekly—1875. August 7, 14, and 21.
The American Practitioner—1875. August.
The Atlanta Medical and Surgical Journal—1875. August.
The Archives of Dermatology—1875. July.
The Boston Medical and Surgical Journal—1875. August 5, 12, and 19.
The Canada Lancet—1875. August.
The Canada Medical and Surgical Journal—1875. August.
The Cincinnati Lancet and Observer—1875. August.
The Cincinnati Medical Advance—1875. August.
The Clinic—1875. August 7, 14, and 21.
The Dental Cosmos—1875. August.
The Detroit Review of Medicine and Pharmacy—1875. August.

The Druggists' Circular—1875. August.
The Eclectic Medical Journal—1875. August.
The Eclectic Medical Journal of Pennsylvania—1875. August.
The Herald of Health—1875. August.
The Journal of Materia Medica—1875. August.
The London Lancet—1875. August.
The Medical News and Library—1875. August.
The Medical Record, New York—1875. August 7, 14, and 21.
The Medical and Surgical Reporter, Philadelphia—1875. August 7, 14, and 21.
The Monthly Abstract of Medical Sciences—1875. August.
The Nashville Journal of Medicine and Surgery—1875. August.
The New York Medical Journal—1875. August.
The Pacific Medical and Surgical Journal—1875. August.
The Peninsular Journal of Medicine—1875. August.
The Philadelphia Medical Times—1875. August 7, 14, and 21.
The Sanitarian—1875. August.
The Sanitary Journal—1875. August.
The St. Louis Medical and Surgical Journal—1875. August.
The United States Medical Investigator—1875. August 2.
Der Feldartz—1875. Nr. 12.
Der Irrenfreund—Jahr. xvii, Nr. 4.
L'Anatomie et de la Physiologie Journal de. Ch. Robin—No. 4, Mai et Juillet & Soût, Paris, 1875.
La France Medicale—1875. Nrs. 53, 54.
Le Progres Medicale, Paris, 3e Annee—Nos. 26, 27, 28, 29, 30.
Memorabilien—Jahr. xx, Heft. 4.

Dr. LYMAN WARE, just returned from Europe, informs us that graduates in medicine who may be going abroad to study, will be admitted—on showing their diplomas, and the payment of a small fee—to six months dressing and perpetual medical and surgical practice, to the London Hospitals, which is unequaled in the way of many practical advantages.

Chicago Mortality Report for July, 1875. Reported by Dr. BEN. C. MILLER, Sanitary Superintendent.

BOARD OF HEALTH OF THE CITY OF CHICAGO,
HEALTH OFFICE, CHICAGO, Aug. 11, 1875.

To the Editors of the Chicago Medical Journal and Examiner:

SIRS—I enclose you the mortality report for July. You will see that compared with June, the increase is 638, but compared with the corresponding month of last year, shows a decrease of 283. This makes a good showing for the sanitary condition of Chicago. The mean thermometer

has been lower than last year, but subjected to greater variations; this has been accompanied by an unusual number of cases of bowel affections, but fortunately of not a fatal character. If we get through the summer with as good a comparison with the past as we have up to date, we will have reason to congratulate ourselves. Respectfully yours,

BEN. C. MILLER, *San. Supt.*

Accident, burns	1
" crushed	2
" drowning	14
" fall	2
" run over by 'bus	1
" scalding	2
" railroad	5
" shooting	2
" strangulation	1
Abscess, psoas	1
Abscesses	2
Anæmia	2
Apoplexy	6
Arachnitis	1
Bowels, consumption of	2
" obstruction of	1
" ulceration of	1
Brain, abscess of	1
" congestion of	12
" disease of	1
" inflammation of	2
" softening of	4
Bronchitis	10
" capillary	3
Cancer	1
" of arm	1
" of breast	3
" of face	1
" of liver	2
" of neck	1
" of rectum	1
" of stomach	2
" of uterus	3
Cholera infantum	412
" morbus	12
Consumption	42
Convulsions	146
" puerperal	2
Croup	14
Cyanosis	1
Cystitis	3
Debility, general	8
Diabetes	1
Diarrhœa	80
" chronic	4
Diphtheria	7
Dropsy	3
Dysentery	28
Endo-carditis	2
Enteritis	23
Entero-colitis	24
Erysipelas	2
Fever, congestive	2
" intermittent	1
" puerperal	4
" remittent	1
" scarlet	11
" typhoid	12
Gastritis	3
Gastro-enteritis	6
Hæmorrhage	1
Heart, disease of	4
" dropsy of	1
" hypertrophy of	1
" mitral valves, disease of	1
" rheumatism of	1
" embolism of	2
" rupture of	1
" valvular disease of	3
Hepatitis	1
Hip joint, disease of	1
Hernia	1
Hydrocephalus	9
Inanition	29
Jaundice	1
Kidneys, Bright's disease of	3
" disease of	4
Liver, atrophy of	1
" cirrhosis of	2
Lungs, congestion of	4
" emphysema of	1
Malformation	1
Manslaughter	2
Metro-peritonitis	1
Measles	11
Meningitis	19
" cerebro-spinal	8
" tubercular	6
Old age	12
Paralysis	2
Pericarditis	2
Peritonitis	3
Pneumonia	19
" typhoid	1
Pyæmia	2
Rheumatism	1
Spina bifida	1
Stomach, congestion of	1
" ulceration of	3
Suicide	3
Syphilis	3
Tabes mesenterica	16
Teething	12
Trismus	1

Uræmia	2	Whooping cough	11
Urine, retention of	1		
Uterus, sarcoma of	1	Total	1,171

Premature births, 9; Still births, 65. Total, 74.

COMPARISON.

Deaths in July, 1875, 1,171; in June, 1875, 533. Increase, 638. Deaths in July, 1874, 1454. Decrease, 283.

AGES.

Under one year	671	Thirty years to forty	45
One year to two	204	Forty " " fifty	24
Two years to three	31	Fifty " " sixty	26
Three " " four	17	Sixty " " seventy	22
Four " " five	14	Seventy " " eighty	19
Five " " ten	17	Eighty " " ninety	5
Ten " " twenty	36	Total	1,171
Twenty " " thirty	40		

White	1,160	Males	629	Married	146
Colored	11	Females	542	Single	1,025
Total	1,161	Total	1,171	Total	1,171

NATIVITIES.

Belgium	1	England	14	Scotland	2
Bohemia	4	France	1	Sweden	4
Canada	4	Germany	65	Wales	1
Native—Chicago	225	Holland	2	Unknown	8
Foreign, "	679	Ireland	42	Total	1,171
U. States, other parts	111	Norway	5		
Denmark	3				

Deaths daily, 37¾. Mean thermometer, 68.7°. Rain fall, 7.20 inches.

MORTALITY BY WARDS.

Wards.	No. Deaths.	Pop. in 1874.	Percentage.	Wards.	No. Deaths.	Pop. in 1874.	Percentage.
1	4	5,725	one death in 1,431	11	30	14,022	one death in 467
2	4	4,830	" " 1,208	12	24	16,792	" " 699
3	20	14,861	" " 743	13	21	17,892	" " 852
4	20	15,361	" " 768	14	33	16,720	" " 507
5	51	20,078	" " 394	15	237	45,545	" " 192
6	151	35,916	" " 238	16	78	21,922	" " 281
7	112	31,722	" " 283	17	49	20,777	" " 424
8	77	29,143	" " 379	18	54	21,392	" " 394
9	80	31,654	" " 398	19	9	4,677	" " 519
10	18	17,385	" " 966	20	15	8,995	" " 599

Ratio of deaths to population in 1874, one death in 338.

No. deaths in Wards	1,087	Manslaughter	2
Accidents	30	Protestant Orphan Asylum	1
County Hospital	6	St. Joseph's Hospital	2
Foundlings' Home	28	Women's Refuge	2
Hospital Alexian Bros.	6	Suicides	3
Home for Friendless	1	Total	1,171
Good Shephards	1		
Mercy Hospital	2		

Deaths.

MAYNARD. August 20, at her residence, 130 Loomis street, after a protracted and painful illness, Maria M., wife of Dr. Wm. J. Maynard.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS.

SOCIETIES.

Mondays, Sept. 6th and 20th—Chicago Medical Society, regular meetings at Gault House, 8 P. M.

Mondays, Sept. 13th and 27th—Chicago Association of Physicians and Surgeons, regular meetings at Pacific Hotel, 8 P. M.

CLINICS.

Every Monday. At Illinois Charitable Eye and Ear Infirmary (Peoria and Adams Sts.) 2 P. M. Prof. Holmes.

At Chicago Medical College, 2 P. M. *Gynecological*—Dr. Merriman.

At Central Dispensary (239 W. Van Buren St.) 2 P. M., *Gynecological*—Dr. Adolphus; 3 P. M., *Medicine*—Dr. Bridge.

TUESDAYS.

CLINICS. *Every Tuesday.*

At Cook County Hospital, 3 P. M., *Surgical*—Prof. Freer.

At Chicago Medical College, 2 P. M., *Gynecological*—Dr. Roler.

WEDNESDAYS.

CLINICS. *Every Wednesday.*

At Chicago Medical College, 2 P. M., *Gynecological*—Dr. Nelson.

At "Woman's Dispensary," (229 30th St.,) 11 A. M., *Gynecological*—Drs. Hurlbut and Jackson; 1 P. M., *Electrical*—Dr. P. S. Hayes.

At Central Dispensary, 3 P. M. *Medical*—Dr. Bridge.

THURSDAYS.

CLINICS. *Every Thursday.*

At the Illinois Charitable Eye and Ear Infirmary, 2 P. M., Prof. Holmes.

At Chicago Medical College, 2 P. M., *Gynecological*—Dr. Merriman.

At Central Dispensary, 2 P. M., *Gynecological*—Dr. Adolphus.

FRIDAYS.

CLINICS. *Every Friday.*

At Cook County Hospital, 3 P. M., *Surgical*—Prof. Freer.

At Chicago Medical College, 2 P. M., *Gynecological*—Dr. Roler.

SATURDAYS.

CLINICS. *Every Saturday.*

At "Woman's Dispensary," 11 A. M., Drs. Hurlbut and Jackson; at 1 P. M., Dr. P. S. Hayes.

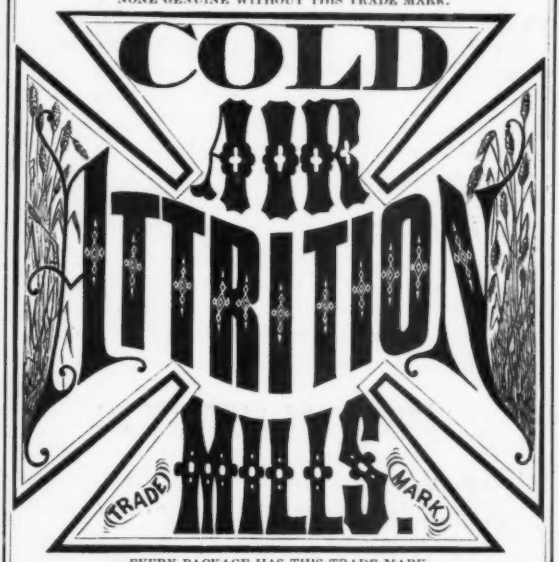
At Chicago Medical College, 2 P. M., *Gynecological*—Dr. Nelson.

"Wheat more nearly corresponds with the requirements of the human system under ordinary circumstances than any other grain, and life and health can be continued on wheat alone for an indefinite period, with good water and air."

COLD AIR ATTRITION

Whole Wheat Flour

NONE GENUINE WITHOUT THIS TRADE MARK.



EVERY PACKAGE HAS THIS TRADE MARK.

Manufactured only by

COLD AIR ATTRITION MILLS

W. WARREN, Manager,

300 & 302 South Clark Street, - CHICAGO, ILL.

"Bread is the representative of human food, because wheat of which it is made, embraces all the elements of nutrition necessary to build up and sustain every part of the system, keeping it in good working condition, and preserving it unimpaired to ripe old age."

Rand, McNally & Co., Printers and Engravers, Chicago.

The Wholesome and Healthful Character

—OF—

THIS FLOUR

SHOULD make it a food upon every table—especially so where there are children or persons of enfeebled health. Wherever practically known and intelligently used, it wholly supplants the so-called Graham Flour, and largely takes the place of "White" Flour for all the more substantial preparations, such as Bread, Raised Biscuit, Muffins, Waffles, and Griddle Cakes. For the latter it is so healthful, palatable and nourishing, that it wholly takes the place of Buckwheat.

It is Not Recommended as a Pastry, or Fancy Cake Flour,

It being too glutinous, and perhaps too dark to please the eye,—yet it makes excellent Fruit Cake, Gingerbread, Doughnuts, a most healthful Pie-Crust, and very nutritious Crackers.

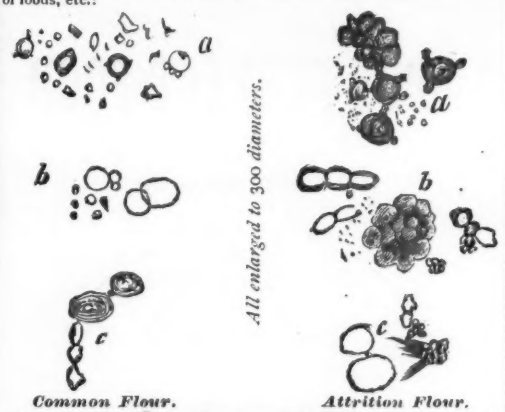
FAMILIES AND HOUSEKEEPERS

Using this Flour for the First Time, should be careful about intrusting its manipulation to Servants unfamiliar with its use, without overseeing it.

The fact that it contains all of the Wheat, possesses a peculiarly sweet and palatable flavor, which is liable to be impaired by too much or poor yeast, is very glutinous, and should be wet up for Bread and Biscuit much moister than other Flour,—should all be well understood and intelligently acted upon. Otherwise the result may not be satisfactory, and the Flour, as a consequence, be unjustly condemned.

FLOUR UNDER THE MICROSCOPE.

The following illustrations, with explanations, are taken from the notes of a well-known physician, who is making an exhaustive study of foods, etc.:



Common Flour. ***Attrition Flour.***

It will be seen that the **Common Flour** globules [*a*] are thin and flat; there is much broken or mangled material in it, and has the appearance of debris.

When swollen with water [*b*] the globules do not adhere well, and there is a necessity for overlapping, which their flat or crushed condition readily admits.

Finally, when thoroughly swollen [*c*], the want of tenacity in the gluten makes the globule wall very thin at points, as if about to burst.

This fact explains the reason why bakers must add some foreign substance, as alum, soda, etc., to increase tenacity of the gluten of common flour. Alum is most popular, as it also gives whiteness.

The **Attrition Flour** globules [*a*] are spherical, and show a thicker wall [more gluten], and appear tenacious on the slightest contact, and are found in round cluster masses. There are also some smaller globules and granules, but no bruised or ragged starch patches as in common flour.

When swollen with water [*b*] the walls adhere readily, and, it will be seen, with great tenacity, even to make them assume an almond shape.

When thoroughly swollen [*c*] the globules become very large, and the fibrinous character of the gluten is very apparent in the clusters.

The cuts are placed side by side, for the purpose of easy comparison. The same letters refer to the same condition in each.

These illustrations and tests with the two Flours were made at the same time, and show radical differences between millstone grinding and the Attrition Process.

It is very apparent that the Attrition Flour is the ***strongest*** and ***most nutritious,*** and approaches nearer ***animal tissue*** than common Flour. It is also seen that it will ***absorb more moisture.***

IN WORKING THIS FLOUR

INTO BREAD, BISCUIT, ETC.,

The cook is soon aware that she is handling a very different article from "White" or Bolted Flour. Absorbing a larger quantity of water, it works strong and tenacious, and exhibits a peculiarly sticky or adhesive tendency.

These characteristic differences, which should be well understood, arise from the fact, that

ATTRITION FLOUR,

Contains ***all*** the ***Gluten*** of the ***Wheat,*** while "White" Flour (being principally starch) has but a small percentage.

Nearly all the most important food properties (except starch) of the Wheat, such as the phosphates and nitrates, are in the gluten. It is a viscous, tough, gray substance or vegetable fibrine. It swells and expands in water, and hence the reason that Attrition Flour takes more water, and that the dough, when wet up for baking, requires to be moister than that of White Flour, that it may properly rise and expand, and the bread be light.

GLUTEN,

Is a vegeto-animal matter, and is the most common form or combination in which *nitrogen* occurs in plants. It is never diffused through every part of the plant, but is concentrated, or stored up in some particular part, as in the seeds of Wheat, in various fruits, and sometimes in the leaves of plants, as cabbage, etc.

It mostly occurs in those plants and products which constitute the food of man and animals, showing thereby its obvious use and intention.

NITROGEN,

One of the *important constituents* of *gluten*, is an *essential ingredient of all animal tissues,* ***and of all such vegetable products as can be converted into blood in the animal body or human system.***

The importance of preserving all this gluten of Wheat in the Flour, is hence very apparent, notwithstanding such preservation *should dethrone the "starchy whiteness" notion, which* ***has long been the "false idol" of many a housewife and mother.***

TESTIMONIALS.

W. WARREN.— CHICAGO, July 20th, 1875.

Dear Sir:—Deeply interested in the subject of healthful food, I have kept familiar with the development of the Attrition product from its incipiency to the present perfection in the Cold Air Attrition Process. I have both in public and in private commended this Flour as the most physiological preparation possible to make from Wheat. I have tested it as a food for infants and invalids, and recommend it very highly. T. C. DUNCAN, M. D.

It is with the greatest of pleasure that we call the attention of the profession, and through them of the people, to a new process of making flour that promises to entirely obviate all the grave objections to the old milling process.

A flour *combining fineness of texture* with the *entire properties of the wheat*, is the great demand of the times, and this can now be furnished in perfection by the new Cold Air Attrition process. The Flour is very fine, uniform throughout, and a choice, palatable, very nutritious and unirritating article. It has all the merits of Graham flour, and *none* of its objections. We have seen the process in operation, examined and tested the flour produced by it, and believe that its merits are not yet fully enumerated.—*The United States Medical Investigator.*

We are greatly pleased with the Attrition Flour. It makes a delicious and wholesome bread, much preferred to any other by the family. GEO. F. FOOTE, M. D., Stamford, Conn.

I have used your "Attrition Flour" extensively with children. Delicate, feeble sickly little ones, with whom milk would not agree, and who have suffered from want of nourishment, would thrive and grow strong and healthy under its use.

I think it far superior to Granum, Condensed Milk, or any other artificial food that has ever been used.

It contains all the elements necessary for the support and nourishment of the body, and children suffering from marasmus are by its use brought into a condition of permanent health and strength.
O. H. MANN, M. D., Evanston, Ill.

I look upon your Attrition Flour with great favor—especially as it receives such attention and approbation from many of our eminent Physicians. D. E. SEYMOUR, M. D., Calais, Maine.

It makes the best bread I ever ate.
T. W. HARVEY, 391 Michigan Avenue, Chicago, Ill.

I have delayed sending the above order that I might report upon the bread made from this peculiar flour. It certainly is very fine, and has my hearty wishes for its complete success.

If it can be delivered in Buffalo at the price named, there can be sold large quantities of it.
E. G. COOK, M. D., Buffalo, N. Y.

The sample of Attrition Flour was duly received. We have tried it, and are convinced of its merits to the full extent of what is claimed for it, as a healthy, nourishing and unadulterated article.
WM. BRITTELE, Shenandoah, Va.

I congratulate you upon the process for making an improved article of Flour. I look upon this improvement as one of the most needed at this time. F. HILLER, M. D., San Francisco, Cal.

We have used the Attrition Flour at the Foundlings Home, and are much pleased with the results. The babies like it and do well. We tried to substitute Graham Flour, but they did not do nearly as well. K. C. WOODHULL, M. D.

The successful endeavor to supply a Flour which will make the best, most nutritious, and most healthful bread, is precisely what can be claimed for your process. Those who can impress upon the people that *common white flour is not fit for food*, are public benefactors, and this is what your product is slowly but surely demonstrating. N. F. COOKE, M. D., 360 Mich. Ave., Chicago.

Directions for Using.

Families and Housekeepers using this flour for the first time should NOT intrust its manipulation to servants unfamiliar with its use, without overseeing it.

IN BREAD MAKING:

1st. Use ONLY GOOD YEAST and LESS OF IT than with ordinary flour. The bread is very sensitive to the flavor of yeast, and therefore a *strong* flavored yeast should be avoided, as it will injure the bread, both in taste and quality.

2nd. Set a sponge at night, the same as for ordinary bread, (a sponge of common white flour may be used if preferred), but in wetting up for the pans in the morning, BE SURE and have the DOUGH CONSIDERABLY MOISTER than for white bread.

It should be moist enough to work with a spoon instead of kneading.

If kneading the dough is attempted, it will be too dry, and the bread will not properly rise, expand and become light.

Experience will soon teach any one as to the several points to be observed, viz: amount of yeast, degree of moisture, manner of working, etc.

Griddle Cakes are exceedingly appetizing and wholesome made from this flour. They are very tender and delicate made with sour milk and a little soda.

They may, also, be made with yeast the same as other flour. Except, be careful to have good yeast, and use the least quantity necessary for the purpose.

Muffins and Waffles are delicious made after any good recipe.

Finally, any good cook, with a little experience with the Flour, will use it successfully.

Delicious Pudding or Mush.

Mix the Flour for the Pudding first into a *smooth batter* with cold water, then pour into the boiling water slowly, or in a small stream, *so as not to stop the boiling*, as if the Flour when it first goes into the hot water *is not scalded, no amount of after cooking will save it from tasting raw.* If set away from the fire a few minutes before taking up, it will cleave readily from the kettle. *Much depends upon the manner of making, as with the same materials a delicious dish may be made, or one not fit to be eaten.*

As a Special Food for Teething Children.—Mix one or two large teaspoonsful with a little milk or water—milk, if possible—to the thickness of cream; then add to it half a pint of hot milk or water, and stir till it boils well for about five minutes. It should be sweetened with loaf sugar, or if there is a tendency to constipation, with brown sugar.

Also for Older Children

The food may be prepared as above, only in larger quantities and thicker; or it may be mixed into a batter with milk (sweetened), and baked rapidly in a hot pan, or gem irons. These biscuits or gems are excellent and healthful substitutes for the "sweet cake," crackers, etc., so often fed to growing children.

ATTRITION
PEARLED WHEAT.

This article of food is prepared by the ***New Process of Attrition,*** and is free from the objections so generally urged by physicians and others to "Cracked," "Crushed," and "Prepared Wheat."

The outside fibrous or woody coating of the Wheat, which in those preparations is so productive of stomach and intestinal irritation and derangement, is in the ***Attrition Pearled Wheat*** entirely removed; and the product being uniform, it cooks more evenly, and is a food of more wholesome and healthful character.

The Phosphates, Nitrates and Carbonates are all preserved in their natural proportions, and the entire nutritious properties of the Wheat retained.

For Children it is nourishing and healthful.

For Invalids and persons suffering in any way from dyspepsia, indigestion and constipation, it is an excellent food.

It is prepared from White Wheat selected with the utmost care in the best wheat-growing sections of the United States.

DIRECTIONS FOR COOKING.

To one cup of the Wheat put three cups of water; cook slowly until soft, or about two hours; use a double boiler if you have one; if not, set the vessel containing it in a kettle of boiling water, and cook without stirring; it can be made of any desired consistence from a thin to a thick pudding, by using more or less water; eat with sugar and cream, or any sauce to taste.

It is most excellent eaten cold in milk. It may be cut in slices, when cold, and fried the same as mush.

It can be made by a good cook into a variety of puddings and dishes with the use of eggs and milk. No special directions are needed.

Put up in Packages of about 2½ Pounds each, and packed in Cases of two Dozen each, for Shipment.

THE ILLUSTRATIONS

UPON the opposite page, show that the distribution of the several food elements is not alike in all parts of a kernel of Wheat. The most important, such as the Phosphates and Nitrates, being principally in the envelope just under the thin outer coating, and close to the surface of the berry. Being glutinous and tenacious, they adhere firmly to the bran, and the action of millstones in grinding is to flatten and press the gluten and bran into thin flat scales, so that the greater portion is bolted out with the bran, and lost.

WHITE FLOUR

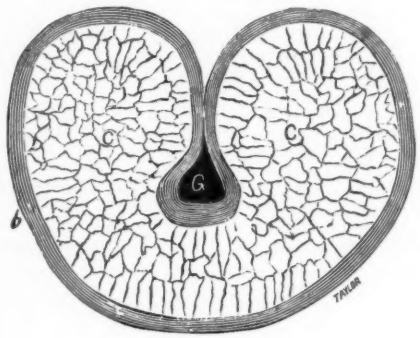
Therefore, consists principally of the interior or starchy parts of the berry — which are the whitest in color,— and although it makes a bread of great "whiteness" and pleasing to the eye, it does not contain food enough for muscles, bones and brains, to keep those organs from actual starvation.

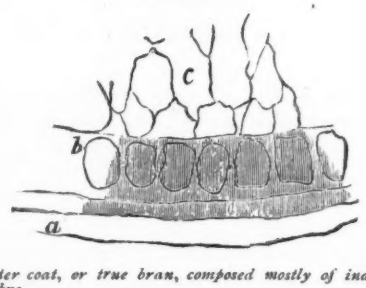
To ignorance of these facts as to the structure of Wheat, can be traced the foolish notion for "White Flour." This notion has been pandered to for a generation or two past, in the systems of grinding and bolting Wheat Flour, until its effects upon the health of the people are plainly seen. Indigestion and Dyspepsia, with their attendant ills, being common and prevalent diseases.

Young and growing children are great but unconscious sufferers by this starvation. One-half of them die before five years old. Those surviving that age often have defective teeth and bones, weak tissues, inadequate muscular development, and their bones, brains and nerves, and systems generally, susceptible to disease which they have not the strength or constitution to combat and resist.

WHEAT UNDER THE MICROSCOPE.

The accompanying drawings each show a transverse section of a grain of wheat; the first, enlarged to eighteen diameters, and the second to one hundred and fifty diameters. The outer layers [*b*] shown in the darker lines of the cuts, constitute a large percentage of the whole grain, and contain the principal part of the muscle-making elements, which are lost with the bran in bolting. The germ [*g*] also which contains gluten and soluble phosphates, is similarly lost, as are the bone-making phosphates which are mixed with the nitrates.





a—*Outer coat, or true bran, composed mostly of indigestible, woody fibre.*

b—*Gluten cells, surrounded by diffused gluten and bound to it by the bran, so that in sifting or bolting a large portion is lost.*

Nine-tenths of all the muscle-making elements reside in this coat or crust, and also the phosphates of lime and soda, of which the bones are made, the most of which are lost in fine white flour.

c—*Cells forming the central mass of the wheat, composed mostly of starch, with a little gluten or albumen intermixed, and also some phosphates connected with the gluten.*

Carbonates, Nitrates an

Chemistry shows that the human sy
teen different elements, not one of w
in the system, but each, after performing
longer time, becomes effete, and gives pla
same element, which must be constantly su

These elements may all be classed
Carbonates, Nitrates and Phosph
the lungs with fuel, and thus furnishes he
plies fat, etc., **Carbon** being the principal
plies the waste of the muscles, **Nitrogen**
ment; and the last supplies the bones, and
and gives vital power, both muscular and
ing the principal element.

The wastes of these principles in
will average more than one pound per day,
their constant supply for the building up
in all its parts.

Nature ONLY Prepares these

These several elements go perpetu
of nature. Man cannot create nor destroy
disorganise—and when disorganized the e
by the vegetable and re-converted into foo
less errand of sustaining life. For it is a
bles use only DISORGANIZED *elements*, while
elements. Therefore, except in the water
breathe, these elements must first be organ
in *Nature's great laboratory*, the VEGETA

They Cannot be Supplied to the

Phosphorus is a very important eleme
the action of the brain depends, and is the
and an important constituent of bones and

In a common sized man there are found
of solid Phosphorus doing its importa
lessly; but take two grains of the two
DISORGANIZED, which can be done by calcin
put them back, and re-organize or appropr
and such an excitement is produced, especi
lirium, inflammation, and even death mi
hour: but give ten times that amount
flour, or any other natural food containi
quietly and gratefully appropriate what
mainder without excitement or harm.

And this shows that Phosphorus, as wel
should only be supplied to the system by
ized food; and forcibly illustrates the e
of the constant attempts to supply
phatic or other missing elements of wheat
parations, powders, etc.

Cold Air Attrition Whole

Supplies all these Elements in
required, and in the most Pe
for Digestion and Ass

trates and Phosphates.

the human system is composed of **four-**
, not one of which is permanently fixed
r performing its duties for a shorter or
nd gives place to other particles of the
e constantly supplied in food.

l be classed under the general terms,
nd Phosphates. The first supplies
s furnishes heat to the system and sup-
the principal element; the second sup-
s, **Nitrogen** being the principal ele-
he bones, and the brains, and the nerves,
nuscular and mental, **Phosphorus** be-

rinciples in a man of moderate size,
ound per day, while the child requires
building up and growth of the system

—::—

ares these Elements for Food.

nts go perpetual rounds in the economy
e nor destroy one of them—he can only
ganized the element is again taken up
erted into food, and sent upon its cease-
. For it is a law of nature that vegeta-
ements, while *man uses only organized*
in the water we drink and the air we
first be organized and prepared for food
, the VEGETABLE WORLD.

—::—

ied to the System Artificially.

portant element, it being that on which
s, and is the physical source of vitality,
of bones and other solid tissues.

re are found to be nearly **two pounds**
g its important work quietly and harm-
of the two pounds which have been
one by calcining a bone, and attempt to
ze or appropriate them in the system,
duced, especially in the brain, that de-
en death might ensue within a single
nat amount *organized* in **unbolted**
ood containing it, and the system will
ppriate what it needs, and reject the re-
r harm.

horus, as well as the other elements,
e system by means of *actually organ-*
trates the **criminal recklessness**
s to supply artificially the Phos-
nts of wheat to bread by chemical pre-

—::—

on Whole Wheat Flour

ients in just the Proportions
he most Perfect Condition
n and Assimilation.

COLD AIR ATTRITION

WHOLE WHEAT FLOUR.

The aim and result of this new method of manufacture, is:

FIRST.—To make a WHOLE WHEAT FLOUR, in the fullest sense of the term,—using only sound and thoroughly ripened Wheat, grown upon the best soils; and in making it, to entirely avoid the injurious and destructive effects upon Flour from *friction* and *heating*, which always attends the grinding of millstones.

SECOND.—To reduce the *whole* of the Wheat to a perfect evenness of quality throughout the Flour, and hence to the best possible condition for easy digestion and assimilation; and as a consequence of this equally fine condition, notwithstanding the *whole of the Wheat* is used, to have no large flakes or particles of bran in the Flour, to irritate the stomach and digestive organs.

THIRD.—To so adapt and apply large volumes of *Cold Air* during the flouring of the Wheat, that the whole and every particle of the *Flour is constantly and thoroughly aired and cold*, and preserves and retains every food element in the same pure and nutrient state as in the Wheat.

To those at all familiar with the fact, that in a kernel of ripe, plump Wheat is stored up, in its proper proportion, each and every food element necessary for the building up and sustenance of the human system, from infancy to old age,—such a Flour as is here described needs no commendation.

Those ignorant of these facts, cannot learn them too soon, for the enfeebled health and diminished vitality so generally prevalent, is largely traceable to the "starved" condition of the Flour we eat, "the more important food elements having been sacrificed to starchy whiteness."

It will be seen, therefore, that *the manner of manufacture*, the *fact* of its being the *embodiment* of *all* the *food properties* of the *highest quality of Wheat*, the *evenness of quality*, together with *its absolute purity*, make this **Cold Air Attrition Flour**

THE MOST PERFECT FOOD IN THE WORLD.

THIS FLOUR IS NEVER HEATED WHILE BEING MADE.

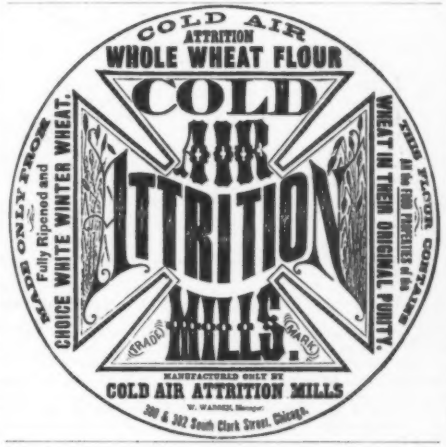
IT IS A MOST NOURISHING AND HEALTHFUL FOOD FOR CHILDREN.

FOR INDIGESTION AND CONSTIPATION, IT IS A NATURAL REMEDY AND PREVENTIVE.

THE

MOST PERFECT FOOD

IN THE WORLD.



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IT CONTAINS ALL THE FOOD PROPERTIES OF THE WHEAT.

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We WARRANT our goods to be as represented, and will price mail orders at the bottom of the market. An examination of stock and prices is solicited. and will well repay large and close buyers.

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It is not farinaceous, and is the only reliable Liebig's Food; requires neither cooking nor boiling; is already digested; and one trial will convince that it is superior to all others as a food for

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GENTLEMEN—After a very thorough trial of your food for Infants, Dyspeptics and Invalids, I am satisfied that it better answers the requirements of such persons than anything of the kind of which I have any knowledge, and I can confidently recommend it to those who need and are in search of such an article. W. C. HUNT, M.D., 41 Clark St.

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To all others, for the first year,	45 00
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OF THE BEST QUALITY.

Retail Price, - - - $15.00 Each.

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On and after January 1st, 1876, we shall **Manufacture Artificial Eyes in Chicago,** from the finest imported material.

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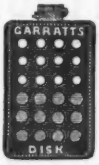

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This clean flexible disk-pad is simply worn, is self-applying, *Constant Electric*. Invented by a well known physician, electrogist, this Disk *is not*, in the least, like those *humbug* voltaic bands, voltaic soles, voltaic plasters, chains, etc. *See the Circular.*

Large Disk, 5 by 8 inches, *best* for most cases, $2.50; Long, 4 by 12 inches, with buckle and strap, $3.00; Extra Long, 4 by 18 inches, $4.00; Children's, $1.50. By mail, on receipt of price, by A. C. GARRATT & CO., 6 Hamilton Place, Boston, Mass. Also at 21 Charring Cross, London, England.

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IMPROVED TROMMER'S EXTRACT OF MALT,

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The manufacturers believe they are performing a valuable service in bringing within the reach of American physicians a medicinal agent so highly esteemed in Europe; and they challenge comparison of this extract with any of the imported extracts in regard to *strength*, *purity* and *flavor*. It consists of Diastase, Malt Sugar, Resin and Bitter of Hops, Phosphates of Lime and Magnesia, and Alkaline Salts. *It is exceedingly palatable, convenient of administration and will not ferment.* By many American and Foreign physicians, (among the latter, Niemeyer, Trousseau and Aitken,) malt extract is strongly recommended in the treatment of slow, irritable, and difficult digestion, bronchitis, consumption, the debility of females and the aged, and, indeed, in almost all depressing maladies, in which it has been found admirably adapted to building up and invigorating the system. THE IMPROVED TROMMER'S EXTRACT OF MALT is put up in pint bottles, which are sold at one dollar each. Dose, a dessert to a tablespoonful, best taken in a glass of milk three times a day.

THE FERRATED EXTRACT OF MALT,

uniform in size and price with the above, contains, in addition, two grains of the Pyrophosphate of Iron in each dose.

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The Preliminary Winter Session commences Sept. 15, 1875, and continues till the opening of the regular session. It is conducted on the same plan as the Regular Winter Session.

The Regular Winter Session occupies four and a half months—commencing on Sept. 29, and continuing till the middle of February. The system of instruction embraces a thorough Didactic and Clinical Course, the lectures being illustrated by two clinics each day. One of these daily clinics will be held either in Bellevue or the Charity Hospital. The location of the College building affords the greatest facilities for Hospital Clinics. It is opposite the gate of Bellevue Hospital, on Twenty-sixth street, and in close proximity to the ferry to Charity Hospital on Blackwell's Island, while the Department of Out-door Medical Charity, and the Hospital Post-mortem Rooms, are across the street. The students of the University Medical College will be furnished with admission tickets to these establishments free of charge. The Professors of the practical chairs are connected with one or both of these Hospitals.

Besides the Hospital clinics, there are eight clinics each week in the College building.

The Faculty desire to call attention particularly to the opportunities for dissection. *Subjects are abundant and are furnished free of charge*, and the Professor of Anatomy spends several hours each day in demonstration in the dissecting-room.

The Post Graduate Course will begin September 29, 1875, and continue during the Regular Winter Session.

FEES FOR THE WINTER COURSE.

For course of Lectures,	$140 00
Matriculation,	5 00
Demonstrator's fee, including material for dissection,	10 00
Graduation Fee,	30 00

FEES FOR THE SPRING COURSE.

Students who have attended the Winter Course will be admitted free of charge. Those who have not attended the Winter Course, will be required to pay the Matriculation Fee and $30; and should they decide to become pupils for the Winter, the $30 thus paid will be deducted from the price of the Winter Tickets.

For the purpose of assisting meritorious individuals, the Faculty will receive a few *beneficiaries*, each of whom will be required to pay $43 per annum and the Matriculation Fee.

For further particulars and circulars, address the Dean,

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Clinical instruction is given at the University Hospital as follows: Surgery, Profs. AGNEW and J. NEILL; Medicine, Prof. PEPPER; Diseases of Women and Children, Prof. GOODELL; Diseases of the Eye, Prof. NORRIS; Diseases of the Ear, Prof. STRAWBRIDGE; Nervous Diseases, Prof. H. C. WOOD, Jr.; Skin Diseases, Prof. L. A. DUHRING; Morbid Anatomy and Histology, Prof. J. TYSON.

The Philadelphia Hospital also is contiguous to the University, and its Clinical Lectures are free to all medical students. Students may be examined on the elementary branches at the end of the second course, and, if approved, may devote themselves during their third course to the applied branches only.

During the Spring and Summer, Lectures on Zoology and Comparative Anatomy, Botany, Hygiene, Medical Jurisprudence and Toxicology, and Geology, are delivered by Professors ALLEN, WOOD, HARTSHORNE, REESE, and HOWELL, of the Auxiliary Faculty, and are free to matriculants of the Medical Department. The Lectures of 1875-76 will commence on Monday, October 4th, and end on the last day of February ensuing.

FEES—For one full course, $140; or, for each professor's ticket separately, $20. Matriculation fee (paid once only), $5. These fees are payable in advance. Graduation fee, $30.

Letters of inquiry should be addressed to

ROBERT E. ROGERS, M.D., Dean,

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FEES—General Ticket,	$40 00
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Number of Matriculants Last Session,	**282**
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The plan of study was radically changed in 1871.* Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. This year begins Sept. 30, 1875, and ends on the last Wednesday in June, 1876. It is divided into two equal terms, with a recess of one week between them. Either of these two terms is more than equivalent to the former "Winter Session," as regards the amount and character of the instruction. The course of instruction has been greatly enlarged, so as to extend over three years, and has been so arranged as to carry the student progressively and systematically from one subject to another in a just and natural order. In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory work is largely substituted for, or added to, the usual methods of instruction.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three years' period of study, a series of written examinations on all the main subjects of medical instruction has been distributed through the whole three years; and every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction during his period of study.

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For the First Year.—Anatomy, Physiology, and General Chemistry.

For the Second Year.—Medical Chemistry, Materia Medica, Pathological Anatomy, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

Students are divided into three classes, according to their time of study and proficiency. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the second or third year's class must pass an examination in the branches already pursued by the class to which they seek admission. Examinations are held in the following order:—

At the end of the first year—Anatomy, Physiology, and General Chemistry.

End of second year—Medical Chemistry, Materia Medica, and Pathological Anatomy.

End of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, and Surgery.

Examinations are also held before the opening of the School, beginning September 27th.

Students who do not intend to offer themselves for a degree will also be received at any part of the course, for one term or more. Any student may obtain, without an examination, a certificate of his period of connection with the school.

REQUIREMENTS FOR A DEGREE.—Every candidate must be twenty-one years of age; must have studied medicine three full years, have spent at least one continuous year at this School, have passed the required examinations, and have presented a thesis.

COURSE FOR GRADUATES.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises the following branches: Histology; Physiology; Medical Chemistry; Pathological Anatomy; Surgery; Auscultation, Percussion, and Laryngoscopy; Ophthalmology; Dermatology; Syphilis; Psychological Medicine; Otology; Electro-therapeutics; Gynæcology; and Obstetrics. Single branches may be pursued, and on payment of the full fee also the privilege of attending any of the other exercises of the Medical School, the use of the laboratories and library, and all other rights accorded by the University will be granted. Graduates of other Medical Schools who may desire to obtain the degree of M.D. at this University, will be admitted to examination for this degree after a year's study in the Graduates' Course.

FEES.—For Matriculation, $5; for the Year, $200; for one Term alone, $120; for Graduation, $30. For Graduates' Course, the fee for one Year is $200; for one Term, $120; and for single courses such fees as are specified in the Catalogue. Payment in advance.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees.

For further information, or Catalogue, address **Dr. R. H. FITZ, Sec'y,**
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In and after September, 1877, an examination on entrance will be required. For particulars see Catalogue.

RUSH MEDICAL COLLEGE.

The Thirty-Second Annual Course of Lectures will commence on Wednesday, September 30th, 1874, and continue TWENTY WEEKS.

FACULTY:

JOS. W. FREER, Professor Physiology and Microscopic Anatomy, PRESIDENT.
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R. L. REA, M.D., Professor of Anatomy.
MOSES GUNN, M.D., A.M., Professor Principles and Practice of Surgery and Clinical Surgery.
EDWIN POWELL, M.D., Professor Military Surgery and Surgical Anatomy.
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FEES.

Lectures, $55; Matriculation, $5; Dissecting, $5; Hospital, $5; Graduation, $25.

For further information with reference to the College, address the Secretary,

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CHICAGO MEDICAL COLLEGE.

The regular Annual Lecture Term in this Institution will commence on the first Monday in October, and continue until the third Tuesday in March following. Clinical Lectures *daily* throughout the term.

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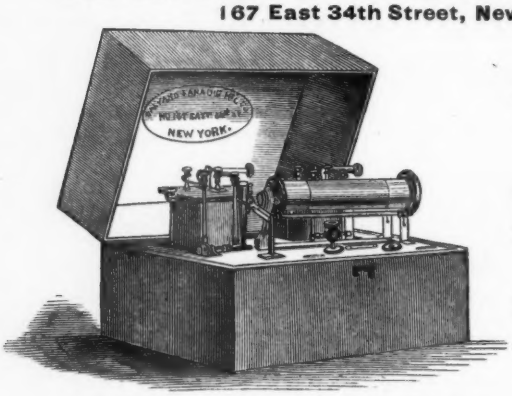

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SESSIONS OF 1875-76.

THE COLLEGIATE YEAR in this Institution embraces a Preliminary Autumnal Term, the Regular Winter Session, and a Summer Session.

THE PRELIMINARY AUTUMNAL TERM for 1875-76 will commence on Wednesday, September 15, 1875, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students designing to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will commence on Wednesday, September 29, 1875, and end about the 1st of March, 1876.

FACULTY:

ISAAC E. TAYLOR, M.D., PRESIDENT OF THE COLLEGE, Emeritus Professor of Obstetrics and Diseases of Women and Children.
JAMES R. WOOD, M.D., LL.D., Emeritus Professor of Surgery.
FORDYCE BARKER, M.D., Professor of Clinical Midwifery and Diseases of Women.

AUSTIN FLINT, M.D., Prof. of the Principles and Practice of Medicine and Clinical Medicine.
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EDWARD L. KEYES, M.D., Professor of Dermatology, and Adjunct to the Chair of Principles of Surgery.
EDWARD G. JANEWAY, M.D., Professor of Pathological and Practical Anatomy, (Demonstrator of Anatomy.)

A distinctive feature of the method of instruction in this College is the union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the Regular Winter Session, in addition to four didactic lectures on every week day, except Saturday, two or three hours are daily allotted to clinical instruction. The union of clinical and didactic teaching will also be carried out in the Summer Session, nearly all of the teachers in this Faculty being Physicians and Surgeons to the Bellevue Hospital.

The Summer Session will consist chiefly of Recitations from Text-books. This term continues from the middle of March to the end of June. During this Session, there will be daily recitations in all the departments, held by a corps of examiners appointed by the regular Faculty. Regular clinics will also be held.

FEES FOR THE REGULAR SESSION.

Fees for Tickets to all the Lectures during the Preliminary and Regular Term, including Clinical Lectures	$140 00
Matriculation Fee	5 00
Demonstrator's Ticket (including material for dissection)	10 00
Graduation Fee	30 00

FEES FOR THE SUMMER SESSION.

Matriculation (Ticket good for the following Winter)	$ 5 00
Recitations, Clinics and Lectures	50 00
Dissection (Ticket valid for the following Winter)	10 00

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REFERENCES:—Dr. Oscar C. DeWolf, in CHICAGO MEDICAL JOURNAL, November, 1874; Dr. Leonard, in the same Journal, May, 1875.

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LACTO-PHOSPHATE OF LIME is a new therapeutical agent, based upon the physiological researches of Mr. L. DUSART, and first proposed by him.

The publication of his work on the "Physiological Action of Phosphate of Lime," had led to the adoption of advanced views in regard to the importance of this substance in the animal economy. It is now considered necessary, not only for the **Perfection of the Bony System**, but also, and above all, for the **Formation and Alimentation of the Muscular Tissues, and of Cerebral matter itself.** Under its influence the nitrogenized matter of food is transformed into muscular flesh, and upon the quantity of this substance present in the system depends the vital activity and temperature of the individual. Hence, an insufficient supply of the phosphate causes a rapid decline of the general health.

DUSART'S PREPARATIONS OF LACTO-PHOSPHATE OF LIME present to the physician the **phosphate of lime in the combination in which it exists in the stomach**, after it has been acted upon by the gastric fluid. It is, therefore, presented ready for assimilation, and hence, the Lacto-Phosphate should be preferred to the ordinary bone phosphate, which frequently is insoluble, or nearly so.

DUSART'S PREPARATIONS have been used in the hospitals of Paris with great success and in a wide range of diseases, as:—**Rachitic and Scrofulous Affections** in children; the **Langhor caused by too rapid a growth and development in youth**; the **Debility attendant upon old age**; **Weakness in Females**, caused by the nursing of children; **Slow Convalescence**; certain forms of **Dyspepsia**, caused by the low vitality of the system. In cases of **Fractures**, their use has been found to cause a more rapid **ormation of the Callus, and in cases of wounds, the cicatrisation has been more prompt**, while its administration to children facilitates the general development, and especially the process of **Ossification and Dentition.**

DUSART'S Work on the "PHYSIOLOGICAL AND THERAPEUTIC ACTION OF PHOSPHATE OF LIME" will be sent free on application to the Agents.

E. FOUGERA & CO., New York, Agents for the U.S.

"LA PLATA"

Extract of Meat.

Prepared by

A. BENITES & CO.,

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None genuine without this

TRADE MARK,

"Bullock Reclining."

This is a pure extract of beef, free from fat and gelatine. Each pound contains the soluble nutritive constituents of 34 to 36 pounds of the finest beef, exclusive of bones or fat, corresponding to about 45 pounds of good butcher's meat. *It will keep unaltered for years in any climate.*

CAUTION.—Persons wishing to use a pure extract of beef, will do well to specify the "LA PLATA," with above trade-mark, and accept no other.

DELACRE'S LA "PLATA"

Extract of Meat Chocolate,

Containing in one preparation, and under a most agreeable form, a large proportion of tonic and nutritive principles.

It is a *pure chocolate,* containing the purest *extract of beef,* and is a most useful tonic and nutritive agent for invalids and convalescents, and for persons of feeble or delicate constitutions.

It contains 3 per cent. of La Plata Extract of Meat, and every square represents the nutritive constituents of 1¼ ounce of fresh beef.

It is used as ordinary chocolate, and is sold in packages, with full directions.

DELLUC'S BISCOTINE,

A MOST EXCELLENT, HEALTHY AND INVIGORATING

FOOD FOR INFANTS AND INVALIDS.

It is prepared from a Sweetened Bread and other nutritous substances, reduced to a fine powder, so as to render them easily soluble in water or milk.

As an article of common diet for infants, particularly those suffering from delicate constitutions, weak intestines or looseness of the bowels, it will be found to give health and strength with more certainty than the CRUDE substances now in use, and not, like them, liable to sour on the stomach.

Elixir of CALISAYA BARK,

A TONIC AND ANTI-DYSPEPTIC CORDIAL.

E. FOUGERA & Co., Agents, N. Y.

Grimault & Co.'s Pharmaceutical Products

Prepared with the most scrupulous care, under the immediate supervision of Prof. Leconte, M. D., Pharmacist of the First Class, Ex-Preparator of the course of Physiology, at the College of France.

E. FOUGERA & CO., General Agents for the U. S.

Digestive Lozenges and Powders of the Alkaline Lactates.

(SODA AND MAGNESIA.)

Of BURIN Du BUISSON.

The researches of DR. PETREQUIN, Prof. at the School of Medicine of Lyons, aided by Mr. BURIN DU BUISSON, the eminent chemist, have established beyond a doubt the *special adaptation of the Alkaline Lactates* to the treatment of functional diseases of the digestive organs. These preparations will be found very beneficial in *imperfect* and *laborious digestion, heartburn, gastralgia, loss of appetite, nausea, distention of bowels and stomach.* They are more certain and less irritating than calcined Magnesia or preparations having *Charcoal, Bismuth,* or *bicarb of Soda* for their basis.

Digestive Lozenges and Powders of the Alkaline Lactates with Pepsine.

These are prescribed in certain cases when the digestive powers are deranged, weakened, or null.

Ferro-Manganic Preparations

Of BURIN Du BUISSON.

The superiority of *combinations of the Salts of Iron and Manganese* over those of *Iron* have been fully established by the experiments of Dr. Petrequin. The following *Ferromanganic preparations,* approved by the Imperial Academy of Medecine of Paris, have been originated by Mr. Burin Du Buisson in accordance with these experiments, and are confidently recommended to the medical profession as replacing advantageously all medecines having iron as their base, especially in *chloroanæmia, chlorosis, and all affections caused by the poverty of the blood*:

Ferromanganic Powder, for effervescing water.
Carbonate of Iron and Manganese Pills.
Syrup of the Lactate of Iron and Manganese.
Dragees of the Lactate of Iron and Manganese.
Syrup of the Proto-Iodide of Iron and Manganese.
Pills and Dragees of the Proto-iodide of Iron and Manganese
Maganesic Iron reduced by Hydrogen.

Grimault's Syrup of Peruvian Bark and Iron.

This new combination unites, in a small volume and an agreeable form, two elements which have never before been blended—Red Peruvian Bark, the best of tonics, and Iron, which forms the base of the blood. It is especially suitable for lymphatic or delicate persons, and in all cases for which Bark and preparations of Iron are usually prescribed.

DEFRESNE'S PANCREATINE.

PANCREATINE is the active principle of the PANCREATIC FLUID, which is generally acknowledged by physiologists to be the most important of the secretions necessary for the proper **Digestion** and **Assimilation** of **Food**, since IT ALONE possesses the property of digesting and preparing for assimilation all the various kinds of food, whether **of an albuminoid, fibrinous, starchy** or **fatty nature.**

PANCREATINE, therefore, becomes a **very important remedy** in a great many cases of **Indigestion, Atony of the Digestive Organs** and various forms of **Dyspepsia,** where Pepsine and other remedies have failed.

As a Help for the Digestion of Fats, physicians will find PANCREATINE invaluable to patients who are unable to support Cod Liver Oil or fatty substances, and are therefore deprived of their nourishing and restorative properties.

The **Dose** of DEFRESNE'S PANCREATINE is **5** to **15 grains,** according to the nature of the case, taken before or during meals. *It is sold in bottles containing Half, or One ounce.*

The following PREPARATIONS of PANCREATINE are also offered:—

PANCREATINE PILLS, containing 4 grains each.

PANCREATINE WINE and **ELIXIR,** given in doses of one or two tablespoonfuls.

PANCREATIC EMULSION OF COD LIVER OIL, representing Cod Liver Oil in a state of perfect emulsion, and readily borne by the stomach.

PANCREATIC EMULSION OF COD LIVER OIL, with Iodide of Iron.

PANCREATIC EMULSION OF SOLID FAT, fresh and sweet, representing fat perfectly emulsified and ready for immediate absorbtion.

Mr. Defresne having made Pancreatic preparations a subject of special study for several years, has succeeded in obtaining them in great perfection, and hence they are recommended as superior to similar preparations heretofore offered.

Dusart's Lacto-Phosphate of Lime.

(SYRUP AND WINE.)

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E. FOUGERA & CO., New York, Agents for the U.S.

Raquin's Capsules.

An experience of over thirty years has established the fact that **GLUTEN, as a coating for Copaiba and similar remedies,** is far superior to gelatine. The coating is more easily dissolved, and being thinner, allows a larger amount of Copaiba to be administered in a capsule of the same size.

The process of Mr. Raquin, originated in 1837, has been approved by the Academy of Medicine of Paris, and the capsules bearing his name have been found to possess advantages over all others, on account of

THEIR RELIABILITY—All ingredients used being carefully selected.
THE CARE used in their preparation.
THEIR READY SOLUBILITY, and consequent prompt action.
THE ENTIRE ABSENCE OF ERUCTATIONS,

which are sure to follow the use of gelatine capsules containing liquid Copaiba.

Physicians desiring to use Balsam of Copaiba pure, or combined with other remedies, will find Raquin's Capsules among the best. The following combinations are now offered

Capsules of Copaiba Pure.	**Capsules of Copaiba and Cubebs.**
" **Copaiba and Matico.**	" **Copaiba and Iron.**
" **Copaiba and Rhatany.**	" **Copaiba and Tar.**
" **Copaiba and Subnite Bismuth.**	" **Pure Turpentine.**

BLANCARD'S PILLS

OF UNCHANGEABLE IODIDE OF IRON.

Blancard's Pills of Iodide of Iron are so scrupulously prepared, and so well made, that none other have acquired a so well deserved favor among physicians and pharmaceutists. Each pill, containing one grain of proto-iodide of iron, is covered with finely pulverised iron, and covered with balsam of tolu. Dose, two to six pills a day. The genuine have a *reactive silver seal* attached to the lower part of the cork, and a green label on the wrapper, bearing the fac-simile of the signature of

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without which none are genuine.

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Cusset Vichy Waters

ELIZABETH—Alkaline, Magnesian Spring.
STE. MARIE—Alkaline, Ferro-Manganic Spring.

These waters are unsurpassed among the best alkaline waters of Europe.

The waters of the **Elizabeth Spring** are richest in Bi-carbonate of Soda and Magnesia of all the Vichy Waters, and are recommended especially for **Congestion of the Liver** and **Spleen**; diseases of the **Stomach, Kidneys** and **Bladder,** and for **Gravel, Gout** and **Rheumatism.**

The waters of the **Ste. Marie Spring** are very efficacious in **Anœmia, Chlorosis, Intermittent Fevers,** and very remarkable results have been obtained from their use in the treatment of **Diabetes.**

E. FOUGERA & CO., New York, Agents.

PNEUMATIC ASPIRATION

AFTER THE MANNER OF DIEULAFOY.

"It is always possible, owing to Aspiration, to search for a fluid collection without any danger, whatever may be its seat or its nature."

"I have thrust these needles into almost every part of the body; into the Joints, the Liver, the Spleen, the Bladder, the Intestines, the Lungs and the Meninges; and I can affirm, and a great number of observers affirm with me, that we have never seen consecutive accidents."—*Dieulafoy on Pneumatic Aspiration*, pp. 21, 24.

We invite the attention of the Medical Profession to this New Apparatus for Aspiration, constructed upon the general plan of Potain's modification of Dieulafoy's Aspirator, but containing the following improvements and inventions of our own:

Fig. 68.

Fig. 69.

The Stopper and Cocks supplied with Apparatus No. 2.

1st. Means of changing the pump from an exhaust to a force-pump, and *vice versa*, thereby enabling the operator not only to draw an abnormal fluid, but to inject the cavity through the tubes and needle of the apparatus with one adapted to induce healthy action.—*See Dieulafoy on Aspiration*, pp. 276, 278.

2d. The employment, in our apparatus No. 1, of a metal Screw Cap, fitting the neck of the receiver supplied with this apparatus so securely that it cannot be forced from its place by condensed air while injecting, or accidentally removed while the receiver is in a state of vacuum for aspiration.

3d. The substitution, for the ordinary oiled silk valves of other apparatus, of a kind indestructible, both in form and material.

4th. *A* simple and comparatively inexpensive attachment for evacuating the contents of the stomach, equal, if not superior, to any in use hitherto.

Commendations bestowed upon our Aspirators, by physicians familiar with the latest European and American ones, lead us to believe that, in some important particulars at least, they are superior to any.

In his work on Pneumatic Aspiration, Dieulafoy shows the harmlessness of the Aspiratory Puncture and its great superiority to the Exploring Trocar as a means of accurate diagnosis in all collections of Pathological Fluids. It has been used with unprecedented success in the Retention of Urine, Reduction of Strangulated Hernia, in Ascites, Hydrothorax, Empyema, Pneumothorax, Effusions into the Pericardium, Serous, Purulent and Hematic Effusions of the Knee, Hydrocele, Hydatid Cysts, Abscesses of the Liver, and in various other Pathological Lesions.

PRICES OF APPARATUS:

No. 1. Air Pump—exhaust or condensing as described; 16 oz. receiver, of strong glass, with screw cap; three steel, gold-plated Aspiratory Needles, together with the necessary tubes, stop-cocks, etc., as shown in Fig. 68, fitted in a neat case, accompanied with printed directions..... $18.00

No. 2. The same, without receiver, and with rubber stopper, (see Fig. 69) to fit almost any bottle of quart capacity, or less, instead of screw-cap armagement, also with printed directions..... 16.00

No. 3. Dieulafoy's Notched Aspirator, Nickel-plated, with two Needles, Tubes, etc. in case, $14.00

No. 4. Stomach Attachment, as described, adapted to pump accompanying Nos. 1 and 2, additional ... 6.00

The foregoing are the product of our own factory, and are warranted in every respect.

Also, **Dieulafoy on Pneumatic Aspiration,** post-paid, by mail, on receipt of..... 3.40

☞ *Full description on application.*

An Illustrated Catalogue of Surgical and Atomizing Instruments sent by mail post-paid, on application.

CODMAN & SHURTLEFF,

Makers of Surgical Instruments,

13 and 15 TREMONT STREET, BOSTON.

N.B.—See our other Advertisement in alternate numbers of the JOURNAL AND EXAMINER.

PURE COD-LIVER OIL.

Manufactured on the Sea-Shore by HAZARD & CASWELL, from Fresh and Selected Livers.

The universal demand for an article of Cod-Liver Oil that could be depended upon as *strictly pure and scientifically prepared*, having been long felt by the Medical Profession, we were induced to undertake its manufacture at the *Fishing Stations*, where the fish are brought to land every few hours, and the livers consequently are in great perfection.

This Oil is manufactured *by us* on the sea-shore, with the greatest care, from fresh healthy livers of the Cod only, without the aid of any chemicals, by the simplest possible process and lowest temperature by which the Oil can be separated from the cells of the livers. It is nearly devoid of color, odor and flavor—having a bland, fish-like, and, to most persons, not unpleasant taste. It is so sweet and pure that it can be retained by the stomach when other kinds fail, and patients soon become fond of it.

The secret of making good Cod-Liver Oil lies in the proper application of the proper degree of heat; too much or too little will seriously injure the quality. Great attention to cleanliness is absolutely necessary to produce sweet Cod-Liver Oil. The rancid Oil generally found in market is the product of manufacturers who are careless about these matters.

Prof. Parker, of New York, says: "I have tried almost every other manufacturer's oil, and give yours the decided preference."

Prof. Hayes, State Assayer of Mass., after a full analysis of it, says: "It is the best for foreign or domestic use."

After years of experimenting, the Medical Profession of Europe and America, who have studied the effects of different Cod-Liver Oils, have unanimously decided the light straw-colored Cod-Liver Oil to be far superior to any of the brown Oils.

The Three Best Tonics of the Pharmacopœia: IRON—PHOSPHORUS—CALISAYA.

CASWELL, HAZARD & CO. also call the attention of the Profession to their preparation of the above estimable Tonics, as combined in their elegant and palatable **Ferro-Phosphorated Elixir of Calisaya Bark,** a combination of the Pyrophosphate of Iron and Calisaya never before attained, in which the nauseous inkiness of the Iron and astringency of the Calisaya are overcome, without any injury to their active tonic principles, and blended into a beautiful amber-colored Cordial, delicious to the taste, and acceptable to the most delicate stomach. This preparation is made directly from the **ROYAL CALISAYA BARK,** not from **ITS ALKALOIDS OR THEIR SALTS**—being unlike other preparations called "Elixir of Calisaya and Iron," which are simply an **Elixir of Quinine and Iron.** Our Elixir can be depended upon as being a true Elixir of Calisaya Bark with Iron. Each dessertspoonful contains seven and a half grains Royal Calisaya Bark, and two grains Pyrophosphate of Iron.

Ferro-Phosphorated Elixir of Calisaya Bark with Strychnia. This preparation contains one grain of Strychnia added to each pint of our Ferro-Phosphorated Elixir of Calisaya Bark, greatly intensifying its tonic effect.

Ferro-Phosphorated Elixir of Calisaya with Bismuth, containing eight grains Ammonio-Citrate of Bismuth in each tablespoonful of the Ferro-Phosphorated Elixir of Calisaya Bark.

Elixir Phosphate Iron, Quinine and Strychnia. Each teaspoonful contains one grain Phosphate Iron, one grain Phosphate Quinine, and one sixty-fourth of a grain of Strychnia.

Ferro-Phosphorated Elixir of Gentian, containing one ounce of Gentian, and one hundred and twenty-eight grains Pyrophosphate Iron to the pint, making in each dessertspoonful seven and one-half grains Gentian and two grains Pyrophosphate Iron.

Elixir Valerianate of Ammonia. Each teaspoonful contains two grains Valerianate Ammonia.

Elixir Valerinate of Ammonia and Quinine. Each teaspoonful contains two grains Valerinate Ammonia and one grain Quinine.

Ferro-Phosphorated Wine of Wild Cherry Bark. Ea ch fluid-drachm contains twenty-five grains of the Bark, and two grains of Ferri-Pyrophosphate.

Wine of Pepsin. This article is prepared by us from fresh Rennets and pure Sherry Wine.

Elixir Taraxacum Comp. Each dessertspoonful contains fifteen grains of Taraxacum.

Elixir Pepsin, Bismuth and Strychnine. Each fluid-drachm contains one sixty-fourth of a grain of Strychnine.

Juniper Tar Soap. Highly recommended by the celebrated Erasmus Wilson, and has been found very serviceable in chronic eczema and diseases of the skin generally. It is invaluable for chapped hands and roughness of the skin caused by change of temperature. It is manufactured by ourselves, from the purest materials, and is extensively and successfully prescribed by the most eminent Physicians.

Iodo-Ferrated Cod-Liver Oil. This combination holds sixteen grains Iodide of Iron to the ounce of our pure Cod-Liver Oil.

Cod-Liver Oil, with Iodine, Phosphorus and Bromine This combination represents Phosphorus, Bromine, Iodine and Cod-Liver Oil, in a state of permanent combination, containing in each pint: Iodine, eight grains; Bromine, one grain; Phosphorus, one grain; Cod-Liver Oil, one pint.

Cod-Liver Oil, with Phosphate of Lime. This is an agreeable emulsion, holding three grains Phosphate of Lime in each tablespoonful.

Cod-Liver Oil, with Lacto-Phosphate of Lime.

CASWELL, HAZARD & CO.,

DRUGGISTS AND CHEMISTS,

NEW YORK.